STATE IMPLEMENTATION PLAN (SIP) VOLUNTARY MOBILE EMISSION SOURCE PROGRAM (VMEP) INTERIM ASSESSMENT

2002 VMEP FINAL REPORT

APPENDIX

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VOLUNTARY MOBILE EMISSION SOURCE PROGRAM (VMEP)
STATE IMPLEMENTATION PLAN (SIP)
INTERIM ASSESSMENT

NOVEMBER 2002 REGIONAL SWITCHER SURVEY FINAL REPORT

PREPARED FOR:
GEORGIA DEPARTMENT OF TRANSPORTATION

PREPARED BY:
CENTER FOR TRANSPORTATION AND THE ENVIRONMENT

IN ASSOCIATION WITH
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ESTC

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INTRODUCTION

This report presents the methodology and results of a survey of randomly selected commuters in the Atlanta 13-county non-attainment area[1]. The survey assesses travel and emission reductions from commute behavior changes that could be credited to Voluntary Mobile Source Emission Programs (VMEPs). VMEPs include transportation demand management (TDM) programs that encourage commuters and other travelers to voluntarily use alternative modes of transportation, an action that can help improve traffic congestion and air quality in a region. Atlanta's VMEP is a comprehensive TDM program that includes organizations such as The Clean Air Campaign, Transportation Management Associations (TMAs), and the Atlanta Regional Commission.

The survey was conducted by the Center for Transportation and the Environment (CTE) measurement team on behalf of the Georgia Department of Transportation (GDOT) and the Georgia Department of Natural Resources, Environmental Protection Division (EPD). EPD estimated that 1.5% of the travel and emission reductions needed to bring the non-attainment area into compliance with federal air quality standards would come from VMEPs.[2]. The VMEP estimate represents a daily reduction of 4.4 million vehicle miles, 4.28 tons of oxides of Nitrogen (NO_x), and 6.51 tons of Volatile Organic Compounds (VOC) to be achieved by 2004, the attainment or compliance year. The VMEP targets are presented by EPD in the State Implementation (SIP) for the Atlanta region.

The survey, conducted two years before the SIP attainment year, serves as a test to determine if a regional survey of this nature can be used to assess travel and emission reductions from VMEPs. The survey also provides an early indication of the region's likely ability to meet the SIP target for VMEPs in 2004. In addition, the assessment provides EPD an opportunity to evaluate the assumptions for how the region will meet the TDM VMEP target, as described in Appendix XXV of the SIP.

ESTIMATING VMEP TRAVEL AND EMISSION REDUCTION TARGETS

In June 2001, EPD developed a scenario for how the region might meet the TDM VMEP target. Presented in Appendix XXV of the SIP, the scenario stated that 90% of the travel and emission reductions needed to meet the VMEP target would come from employees of Clean Air Campaign and TMA employer partners and the remaining 10% would come from commuters not affiliated with The Clean Air Campaign or TMAs ("collateral" activity).

Using the VMT target of a daily reduction of 4.4 million vehicle miles, a 30 mile average round trip length, and the 90/10 allocation between partner and "collateral" activity, EPD determined that 132,645 Clean Air Campaign and TMA commuters and 14,739 unaffiliated commuters would need to be placed in alternative forms of transportation, with each commuter reducing 10 vehicle trips per week, by the 2004 attainment date. EPD estimated these commuters would reduce 294,768 vehicle trips per day. As mentioned above, this represents a daily reduction of 4.4 million vehicle miles, 4.28 tons of NO_x, and 6.51 tons of VOC. In addition, EPD estimated The Clean Air Campaign and TMAs would sign up 479 employer partners, with employees totaling approximately 338,000 by the 2004 attainment date.

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[1] Thirteen (13) county non-attainment area includes Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Paulding, and Rockdale counties.

[2] USEPA allows up to three percent of the necessary emission reduction amount to be achieved through Voluntary Mobile Source Emission Reduction Programs (VMEP).

Four Methods to Estimate Commute Travel Reductions

The measurement team used the survey to assess commute changes associated with VMEPs and unaffiliated or "collateral" commuters. This survey interviewed Atlanta area commuters to estimate the percentage who had made travel changes since 1990, the SIP baseline year. Using data from the survey, the measurement team developed four methods to calculate travel and emission reductions associated with these commute changes. The four methods differ in the nature, timing, and motivations for the changes.

Methods 1, 2, and 3 include commute changes associated with both VMEPs and "collateral" participation, a regional assessment of commute changes. Method 4 includes only changes associated directly with VMEPs. A brief summary of each method is presented below and the associated travel and emission reductions are presented in Table A.

Method 1 – All Regional Commute Changes during 12-Year Evaluation Period - Method 1 credits reductions from commute changes that have occurred in the region anytime since the SIP baseline year (1990). This method does not consider the motivation for commute changes, nor does it consider if VMEPs influenced the changes.

Method 1 also counts only commute changes that reduce weekly vehicle trips, that is, changes from single occupant vehicles to alternative modes and changes from lower occupancy modes to higher occupancy modes (e.g., carpool to transit). It does not include respondents whose commute changes increased their weekly vehicle trips, such as would occur if a commuter switched from transit to carpooling. Nor does it include commuters who switched from alternative modes to driving alone, which would also result in increased weekly vehicle trips. As such, Method 1 does not reflect the full range of commute changes that occurred during this time period.

As shown in Table 1, Method 1 exceeds the VMEP commuter placement, VMT, and emission targets, but it does not meet the vehicle trip target.

Method 2 – Regional Commute Changes during Abbreviated Evaluation Period – Like Method 1, Method 2 does not consider the motivation for commute changes or account for the full range of commute changes. However, Method 2 does consider the time period from when commute changes took place. Method 2 credits reductions from commute changes that occurred during the time period when the region implemented VMEPs in earnest. It examines commute changes occurring over the past five years (Method 2-5Y) and commute changes occurring over the past two years (Method 2-2Y).

The 5-year evaluation period begins at the time when the region initiated many of the current local and regional commute services, such as the regional rideshare database and state and federal employer commute assistance programs. The 2-year evaluation period begins at the time the region initiated a large-scale media campaign and increased employer outreach to promote private sector employer commute assistance programs.

As shown in Table 1, the results for the 5-year evaluation period would meet the commuter placement, VMT, and NO_x targets but not the vehicle trip and VOC targets. Results for the 2-year period would meet the commuter placement target and nearly meet the NO_x target, but would fall substantially short of the vehicle trip, VMT, and VOC targets.

Method 3 – Higher to Lower Occupancy Adjustment - Method 3 partially addresses the issue of measuring the full range of commute changes by factoring in switches from higher to lower occupancy alternative modes, for example from transit to carpool. This method provides an indication of at least part of the potential negative impact of commute changes that increase weekly vehicle trips. Method 3 does not account for all negative impacts, because it does not include

switches from alternative modes to driving alone. The method examines all three time periods described earlier: 12-year, 5-year, and 2-year.

Including in the estimated commuters who switched from higher to lower occupancy modes lowers the VMT and emission reduction estimates slightly. As shown in Table 1, the commuter placement targets are met for all time periods, but the vehicle trip targets are not. The VMT target is met for the 12-year period only and NO_x targets are met for the 12-year and 5-year periods. None of the results meet the VOC target.

Method 4 – Direct Attribution to VMEPs and Higher to Lower Occupancy Adjustment - Method 4 considers the motivation for commute changes, and specifically VMEPs that might influence commute behavior. Method 4 credits only influences from VMEP messages and services respondents can name or recall. As a result, it does not count the subconscious effect or the indirect impact of VMEPs that are not immediately evident or obvious to individuals making commute changes. It is likely that many commuters are prompted to make commute changes, but are not fully aware of the influences (either influences on them or on a rideshare partner) that led to the change. The results from Method 4 fall substantially short of all VMEP targets.

TABLE A: DAILY TRAVEL AND EMISSION REDUCTIONS FOR COMMUTE TRAVEL CHANGES

Methods	Commuter Placements	Daily Vehicle Trips Reduced	Daily VMT Reduced (miles)	Daily NO_x Reduced (tons per day	Daily VOC Reduced (tons per day)
VMEP SIP Targets	147,384	294,768	4,421,487	4.28	6.51
Method 1 – All Regional Commute Changes					
12-year evaluation period	308,550	258,318	5,088,867	6.00	6.95
Method 2 – Regional Commute Changes during abbreviated evaluation period					
5-year evaluation period (Method 2-5Y)	269,981	227,713	4,510,995	5.45	6.32
2-year evaluation period (Method 2-2Y)	205,186	176,341	3,539,159	4.25	4.92
Method 3 - Higher to Lower Occupancy Adjustment					
12-year evaluation period (Method 3-12Y)	308,550	227,721	4,486,099	5.29	6.13
5-year evaluation period (Method 3-5Y)	269,981	207,402	4,108,628	4.97	5.75
2-year evaluation period (Method 3-2Y)	205,186	159,525	3,201,663	3.85	4.46
Method 4 - Direct Attribution to VMEPs and Higher to Lower Occupancy Adjustment					
12-year evaluation period (Method 4-12Y)	60,939	42,027	907,355	1.04	1.21
5-year evaluation period (Method 4-5Y)	50,139	35,779	819,693	0.93	1.08
2-year evaluation period (Method 4-2Y)	37,026	28,502	633,031	0.71	0.82

Source: November 2002 Regional Switcher Survey

CONCLUSIONS AND RECOMMENDATIONS

The survey findings identify a difference between measured data and the TDM attainment scenario described in Appendix XXV of the SIP. The number of commuter placements identified in the survey revealed that EPD underestimated the overall number of commuter related placements and overestimated the number of daily vehicle trips reduced as a result of these commuter placements. The TDM scenario proposed by EPD also overestimates the number of VMEP associated commuter placements. It is likely a higher percentage of commuter placements are associated with VMEPs than identified in the regional switcher survey, but, due to the difficulty in identifying why people make commute changes, VMEP related participation or commuter placements cannot be measured accurately.

As stated previously, many commuters are prompted to make commute changes, but are not fully aware of VMEP influences on them or on their rideshare partners. Therefore, any attempts to determine the VMEP and collateral participation influence will always show a higher percentage of collateral participation, some of which has been influenced indirectly by VMEPs. These findings suggest several recommendations EPD should consider when refining the methods and data collection tools for future VMEP target assessments. The recommendations, if implemented, will allow EPD to assess regional commute changes and commute changes directly associated with VMEPs. The recommendations include:

- **Collect data on "drive alone switchers".** Expand survey to capture all types of commute changes, including commuters who switch from an alternative mode to drive alone. EPD could then include the full range of commute change impacts in the overall regional behavior change assessment.

- **Refine methodology questions related to VMEP influence.** Refine the survey to include more detailed questions about why commuters made commute changes and the potential influence of VMEPs on the commute changes in order to examine causality more thoroughly.

SECTION 1 OVERVIEW

PURPOSE OF THE REPORT

In fiscal year 2001 the measurement team began developing a methodology to assess the 13-county metropolitan Atlanta region's fulfillment of the 2004 travel and emission reduction goals established in the State Implementation Plan (SIP) for Voluntary Mobile Source Emission Reduction Programs (VMEP). The Center for Transportation and the Environment developed the methodology on behalf of the Georgia Department of Transportation (GDOT) and the Georgia Department of Natural Resources, Environmental Protection Division (EPD).

The U.S. Environmental Protection Agency (USEPA) allows states or metropolitan areas to project in a SIP that up to 3% of the necessary emission reductions will be achieved through VMEPs. VMEPs are programs that encourage commuters and other travelers voluntarily to use alternative modes of transportation for their travel, an action that can help reduce traffic congestion and improve air quality in a region. EPD estimated that 1.5% of the emission reductions needed in the SIP for the Atlanta region for 2004, the attainment year, would come from voluntary programs. This reduction represents 4.28 tons of NO_x per day and 6.51 tons of VOC, to be achieved by reducing 4.4 million miles of travel.

In 2002, the measurement team developed a test methodology that used a regional transportation survey. The survey is referred to as the "Regional Switcher Survey." The methodology for the switcher survey involved surveying randomly selected sample of commuters in the 13-county Atlanta metropolitan region who had made certain types of commute chances during the past 12 years (since 1990, the baseline year used by EPD for the SIP VMEP estimate).

The objective of the survey was to determine the percentage of commuters who had made a commute change to an alternative mode that reduced their number of weekly commute trips and to collect data from a sample of these commuters about these changes. These commuters were defined as "switchers." The switcher survey carefully screened randomly selected commuters in the region to identify 400 switchers. Survey interviews asked these switchers more detailed questions about their travel patterns before and after the changes to collect data needed to calculate the VMT and emission reductions resulting from their commute changes.

This report presents the methodology and the results of the 2002 Regional Switcher Survey and four methods for how travel and air quality emissions could be calculated. Lastly, the report presents suggestions for how the current methodology could be improved for future assessments.

ORGANIZATION OF THE REPORT

The report is divided into six sections.

- Section 1 – Purpose and organization of the report
- Section 2 – Description of the survey and sampling methodology
- Section 3 – Description of background to developing the survey and overview of survey sections
- Section 4 - Results of the survey respondents. Tables show both the percentage results and the raw number of respondents (e.g., n = 400) responding to the question.
- Section 5 – Travel and air quality emission reductions of switchers
- Section 6 – Conclusions and recommendations

The report also includes the following appendices:

- Appendix A-1 - Survey Questionnaire

- Appendix A - 2 - Program Impact Measures Detailed Description
- Appendix A - 3 - Detailed Travel and Emission Calculation Spreadsheets for Each Method

SECTION 2 DATA COLLECTION AND METHODOLOGY

This section briefly describes the regional switcher survey methodology.

QUESTIONNAIRE DEVELOPMENT

The measurement team developed the survey questionnaire with input from partners of the Atlanta TDM Framework (Framework partners) and conducted the survey by telephone using a Computer Assisted Telephone Interviewing System (CATI). Section 3 in this report provides more background on development of the regional transportation survey.

SAMPLE PREPARATION

The measurement team decided a minimum sample size of 400 survey respondents making a commute change within the past 12 years that reduced their number of weekly commute trips would provide a reasonable level of statistical accuracy to estimate the travel and air quality emission impacts for the region. The confidence level for the 400 switchers is +/- 4.9% in 95 out of 100 cases (95% confidence level). To qualify for the sample, the survey respondent had to reside in the 13 county Atlanta region, be 18 years of age or older, employed full or part time (not self-employed), and commute to and from work (the respondent could not work out of the home).

Obtaining a representative sample at the county level was not an objective of the survey. As a result, the survey findings cannot be examined on a county-by-county basis; they can only be generalized to the region as a whole. The measurement team attempted a total of 3,509 interviews to obtain 400 completed switcher interviews.

SURVEY PRE-TEST

The measurement team completed 35 surveys before conducting the full survey. After examining and discussing the results, interviewers began interviewing the full sample without questionnaire modification. The measurement team completed an additional frequency check upon the completion of 119 surveys and made minor amendments to the survey before continuing.

SURVEY ADMINISTRATION

CIC Research, Incorporated (CIC), the survey administrator, conducted the survey from its in-house telephone facility in San Diego, California. CIC conducted the surveys between October 11 and November 26, 2002.

Survey supervisors randomly monitored calls during the survey period. They also oversaw all interviewers, answering questions as needed. Where necessary, bilingual interviewers completed surveys in Spanish.

EXPANDING THE SURVEY DATA

The measurement team expanded the survey results to align with the 2000 U.S. Bureau of Census (U.S. Census) population and household data for the 13 county metropolitan Atlanta region. Expanding the survey results allowed the measurement team to estimate the regional impact of the survey respondents who made commute changes that reduced their number of weekly trips (switchers). Interviewers asked survey respondents three questions critical to developing the factors used to expand the survey results: county of residence, age, and working/non working household. Table 1 presents the survey findings used to expand the survey data.

To calculate the regional impact of switchers, the measurement team first determined the proportion of non-working and working households identified in the survey. Approximately 82% of the households were considered working households, while about 18% were non-working households. The working/non-working household proportions, when multiplied by the 1,355,900 Occupied Housing Units reported in the 2000 U.S. Census for the 13 county region, resulted in 1,106,488 working households and 249,502 non-working households.

Lastly, the measurement team calculated the number of workers represented by the working households. This calculation involved multiplying the number of working households (1,106,488) by the average workers per working households identified in the survey (1.82 workers/household). The calculation resulted in an estimated 2,010,975 regional workers.

TABLE1: EXPANDING SURVEY DATA

	Non-Working/Working Household		Switcher Working Households		Average Workers per Household	Regional Estimate of Workers
	Survey Response	Regional Estimate	Survey Response	Regional Estimate		
Non-Working Households	18.4%	249,502		0	0	0
Working Households	81.6%	1,106,488	100.0%	1,106,488	1.82	2,010,975

The sum of the estimated workers in the Atlanta area, 2,010,975 closely approximates the number of workers reported in the 2000 U.S. Census data, 2,004,353. The small difference between the two figures supports the methodology used to expand the survey data. Similarly, the average number of workers per household in the Atlanta area, as determined from the survey, 1.48 workers per household, relates favorably to the same value, 1.48 workers per household, as determined from the 2000 U.S. Census data.

SECTION 3 BACKGROUND TO SURVEY DEVELOPMENT

SETTING THE SIP TARGET

In June 2001, EPD presented one of several possible scenarios for how the region might meet the VMEP target. The scenario, presented in Appendix XXV of the SIP, assumes 90% of the travel and emission reductions needed to meet the VMEP target would come from employees of Clean Air Campaign and TMA employer partners. EPD assumed the remaining 10% of travel and emission reductions needed to meet the VMEP target would come from commuters not affiliated with The Clean Air Campaign or the TMAs, referred to as "collateral" reductions.

Using the VMT target of a daily reduction of 4.4 million vehicle miles, a 30 mile average round trip length, and the 90/10 allocation between partner and "collateral" impacts, EPD determined that 132,645 Clean Air Campaign and TMA commuters and 14,739 unaffiliated commuters would need to be placed in alternative forms of transportation, with each commuter reducing 10 vehicle trips per week, by the 2004 attainment date. EPD estimated that the number of commuters placed in alternative modes would reduce 294,768 vehicle trips per day. The reduction in vehicle trips represents a daily reduction of 4.4 million vehicle miles, 4.28 tons of NO_x, and 6.51 tons of VOC. In addition, EPD estimated The Clean Air Campaign and TMAs would sign up 479 employer partners, with employees totaling approximately 338,000 by the 2004 attainment date.

DECIDING ON THE APPROPRIATE DATA COLLECTION ACTIVITY

The measurement team, in consultation with EPD, decided to conduct a regional transportation survey to provide a preliminary assessment of the VMEP target. A regional survey, conducted via the telephone, provided the best opportunity to assess both VMEP and "collateral" participation, or commute changes.

As noted earlier, the measurement team initially considered expanding the existing regional transportation survey planned for late 2002 to assess fulfillment of the 2004 SIP VMEP targets. Based on the results of similar regional transportation surveys conducted in 2000 and 2001, it was expected only a small percentage of total commuters, about 10% or less, would have made a commute change that would have reduced their number of weekly commute vehicle trips within the past 12 years. Because the EPD SIP VMEP estimate included new alternative mode users since the SIP baseline date (1990) and only alternative mode users that reduced their weekly trips, the regional survey purposely screened for alternative mode users who had made a change since the SIP baseline date (1990) was proposed for trial in 2002.

The small percentage of commuters making commute changes meant the survey sample size would need to be increased from the 1,500 collected in past regional transportation surveys to perhaps 4,000 or more to reach the desired sample size of 400 switchers. The measurement team, in consultation with GDOT, determined increasing the sample size would be cost prohibitive. The measurement team was also concerned that increasing the length of the interview for the existing regional transportation survey would be detrimental to the response rate; respondents might not be receptive to participating in such a lengthy survey.

As an alternative, the measurement team recommended conducting two surveys. The suggestion was to conduct the regional transportation survey in the same form as in the past and conduct a new survey focusing on collecting the data needed to assess the 2004 VMEP target. The measurement team would use the new survey to identify 400 switchers from the population at large through a series of questions that screened for current travel and commute changes within the past 12 years. The measurement team would develop several points in the screening interviews to serve as tests for potential switchers. The interviewer would terminate the interview when it was determined a commuter did not make a desired change, in other words that the commuter was not a switcher.

Using the results of the previous regional surveys, the measurement team expected that as many as 65% of potential respondents could be quickly identified as currently driving alone and thus, non-switchers, allowing early termination of many screening interviews. The remaining non-switchers could be identified with just a few additional screening tests, in interviews that were expected to last about three minutes. With quick isolation of switchers, this survey option was much less costly than the option to expand the existing regional transportation survey.

SURVEY SECTION OVERVIEW

The survey is divided into seven sections. The first six sections screened for commuters who are switchers (commuters who made a commute change that decreased their number of weekly trips). The last section collected travel pattern change information and data on other variables for switchers. The sections and their functions are briefly explained below and illustrated in Figure 1.

1 – First Non-Switcher Screeners (asked of all respondents) – Screens for "qualified" commuters and defines years in Atlanta. Defines current commute modes/frequency and creates "current travel grid." Establishes carpool/vanpool occupancy. Screens out respondents who drive alone full-time.

2 – Mode Switch Screeners (asked of respondents who use an alternative mode, including compressed work schedules and telecommuting, during a "typical week") – Identifies respondents who switched to a new alternative mode since 1990 or since they entered the Atlanta workforce, defines previous modes used, and establishes mode frequency for a previous "typical week" (previous travel grid).

3 – Frequency Switch Screeners (asked of respondents who use an alternative mode but did not make a mode change) – Identifies respondents who increased the frequency of alternative mode use and establishes the mode frequency for a previous "typical week" (previous travel grid).

4 – Occupancy Switch Screeners (asked of carpoolers who did not make a mode change or frequency change) – Identifies respondents who increased the occupancy of their carpool and identifies the previous occupancy of the carpool.

5 – Past Travel Grid (established for all alternative mode users) – Establishes modes and frequencies of past mode use for all alternative mode respondents. Sets past mode use to be equal to current mode use for current alternative mode users who made only an occupancy change.

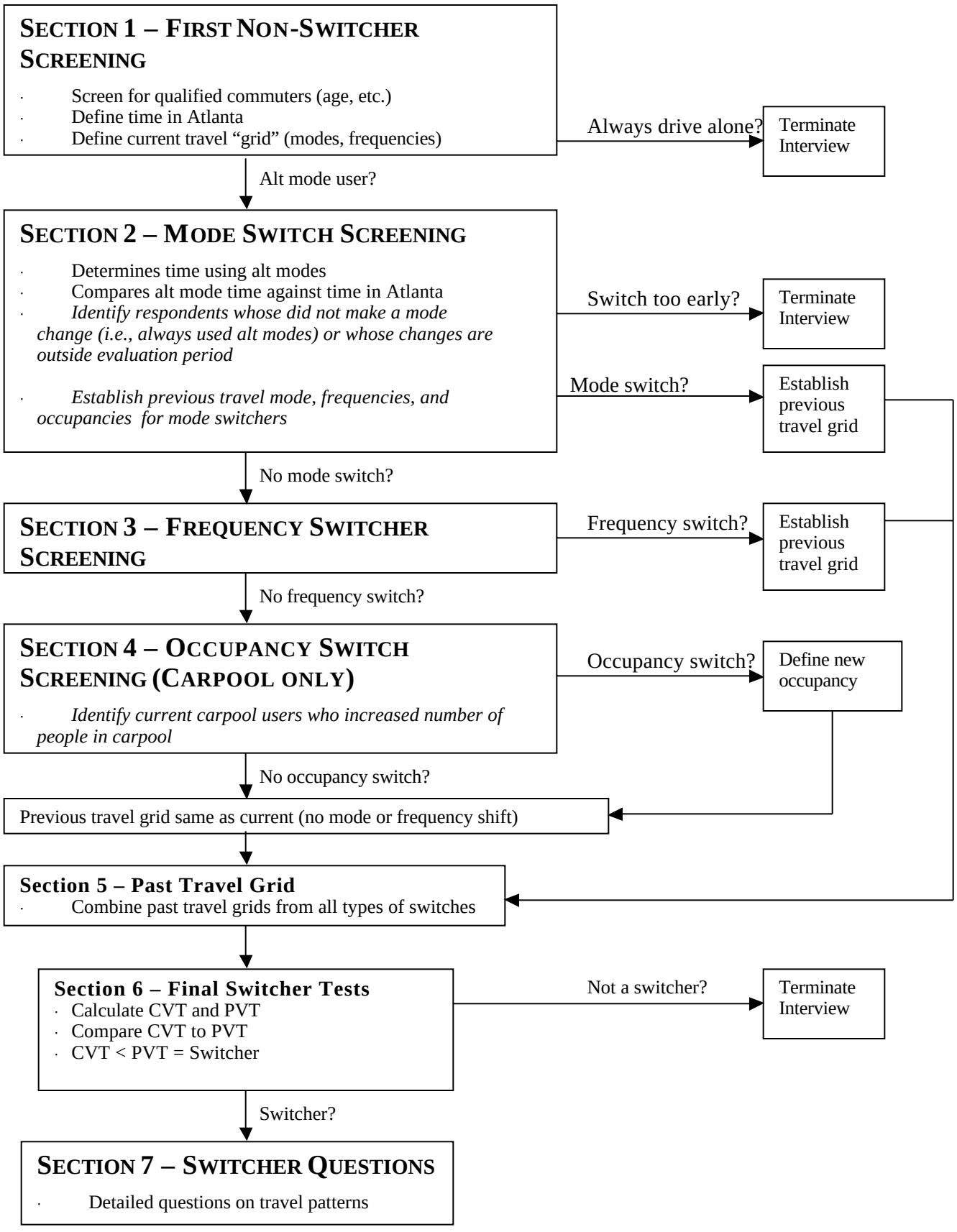
6 – Switcher Tests (all alternative mode users) – Calculates current weekly vehicle trips (CVT) and past weekly vehicle trips (PVT). Compares PVT to CVT to determine if vehicle trips have been reduced from past to current travel. If CVT is less than PVT, trips have been reduced and respondent is a switcher.

7 – Switcher Questions (asked of respondents who qualify as switchers) – Asks additional travel pattern, influence, and demographic questions.

As shown in the steps above, the three switch types - mode switches, frequency switches, and occupancy switches - were identified separately. They were addressed in this hierarchical manner for interview efficiency. If a respondent had made a qualified mode switch, questions to test for frequency and occupancy switches were not needed to know that the respondent was a switcher. If the respondent did not make a mode switch, the interviewer asked the respondent if he/she made a frequency change. If the respondent did not make a frequency switch, the interviewer asked the respondent if he/she made an occupancy change.

Switches were addressed in this order, on the assumption that mode switches would constitute the largest volume of switches, with frequency second, and occupancy third. Thus, as with other aspects related to the organization of the survey, the interview length could be held to a minimum for an individual respondent by avoiding unnecessary questions.

FIGURE 1: SWITCHER SCREENING SECTIONS / TESTS



Other Notable Survey Issues

Several other issues arose during the development of the questionnaire. These issues are described below:

- Choice of evaluation time frame
- Switches made by respondents new to Atlanta or new to the workforce
- Restrict switch comparison to "just prior" mode
- Track only one current alternative for purpose of identifying switching
- Special prompts for teleworking and compressed work schedule
- Calculation of vehicle trips for 9/80 schedules and teleworking less than one day per week

Evaluation Time Frame – The evaluation time frame was set as starting in 1990, the year used in the SIP as the baseline. EPD took forecasts of VMT for the target year of 2003 from the Atlanta Regional Commission regional travel model (then based on 1990 travel data) and estimated concomitant emissions. Subtracting the forecast emissions from the allowable emissions provides the amount of emission reductions necessary to meet attainment.

Switches by Respondents New to Atlanta or New to the Workforce – Switches for respondents who moved to Atlanta or joined the workforce after 1990 were compared against the time they arrived in Atlanta or joined the workforce. If they made a switch since they moved to Atlanta/joined the workforce, their PVT count was calculated from actual previous travel data. But if they used an alternative mode the entire time in Atlanta/in the workforce, their PVT was set equal to that of average of the regional population, based on mode split measured in the 2001 regional survey.

"Just Prior" Mode – Some respondents could have made multiple switches during a 12-year period, but it was anticipated that recall of the specific previous travel details for these respondents could be difficult for the respondent. Therefore, the survey tested for switches only between the current mode(s) and the mode(s) used just prior to the most recent switch. So, if a respondent currently uses transit and switched from carpool, this was the switch captured, even if the respondent made an earlier switch during the 12-years from driving alone to carpool.

Track Only One Current Alternative Mode for Switching Purpose – Another simplifying approach was to ask only about the alternative mode that was started most recently. As noted earlier, the survey asked current alternative mode users how long each alternative mode had been used. If the respondent used more than one alternative mode, the interviewer based switching tests on the alternative mode used the shortest time (most recent switch). If the respondent used two alternative modes the same amount of time, the interviewer chose the one used most often.

Special Prompts for CWS and TW Use – Because some respondents might not consider compressed work schedules or teleworking as "types of transportation," the questionnaire included prompts to ask about current and past use of these options, if the respondent did not mention them in describing current or previous "typical" week's commuting.

Calculation of Vehicle Trips for 9/80 Schedules and Teleworking Less than One Day Per Week – The calculation of vehicle trips for the traditional alternative modes followed the usual convention when a mode was used in a typical week: transit, bike, and walk counted as zero trips, CWS and teleworking days counted as zero vehicle trips, and carpool and vanpool trips were assigned trip counts inversely proportional to the number of vehicle occupants.

Two modes - 9/80 CWS and telecommuting less than one day per week - could not be easily addressed in the typical week travel grids. Each travel grid included a placeholder day for these two options to ensure they were counted in the calculation of CVT and PVT. Interviewers asked respondents who mentioned these modes in a typical week how they would have commuted to work if they had not

been teleworking or working a compressed work week. In the calculation of CVT and PVT, the "typical week", which may not have included the 9/80 alternate weeks or teleworking, was used as the base calculation. The measurement team accounted for the 9/80 alternate weeks and telework days by giving an additional credit of -0.5 vehicle trips.

SECTION 4 SURVEY RESULTS – COMMUTE TRAVEL

As mentioned above, survey interviewers attempted a total of 3,509 interviews to obtain 400 completed switcher interviews. The following sections show the survey responses as respondents as progressed through the interview. As noted, the number of respondents being asked questions decreases from section to section as a result of non-qualified respondent exclusions (e.g., early terminates, outside survey area, and under 18 years old), additional terminates, and survey respondents who refused to answer certain questions.

NON-SWITCHER QUALIFIERS

About one-quarter (25.7%) of the interviews were initiated with respondents who were not qualified to participate in the survey because they failed to meet one of the qualifying screeners noted above. The numbers of respondents in each of these categories are shown below.

TABLE 2: NON-QUALIFIED RESPONDENT COUNTS

Non-Qualified Categories	Frequency	Percent
Early terminates*	191	5.4%
Outside survey area	89	2.5%
Under 18 years old	36	1.0%
No workers in household	586	16.7%
Total non-qualified respondents	**902**	**25.7%**
Qualified respondents	**2,607**	**74.3%**
Total	**3,509**	**100.0%**

*Note: Early terminates include respondents who refused to answer qualifying screener questions.

Home Location

The distribution of respondents by county of residence is shown in Table 3. As shown, some counties, such as DeKalb, Fulton, and Gwinnett, had more than 600 respondents each. Other counties, such as Douglas and Fayette, had fewer than 100 respondents. These percentages roughly mirror the proportion of the population of the counties as they relate to the overall 13 county region. However, due to the small samples in some counties, the survey results cannot be examined on a county level; they can only be generalized to the region as a whole.

TABLE 3: COUNTY OF RESIDENCE
(n= 3,193)*

County	Frequency	Percent
Cherokee County	158	4.9
Clayton County	240	7.5
Cobb County	96	3.0
Coweta County	93	2.9
DeKalb County	629	19.7
Douglas County	77	2.4
Fayette County	89	2.8
Forsyth County	128	4.0
Fulton County	815	25.5
Gwinnett County	602	18.9
Henry County	131	4.1
Paulding County	65	2.0
Rockdale County	70	2.2
Total	3,193	100.0

*Note: n=3,193 excludes early terminates and out–of–area and underage respondents

Current Employment Status

As shown in Table 4, about 88.1% of the survey respondents said someone in their household was currently employed. The majority of respondents (75.5%) worked full-time and about one-eighth (12.6%) said they work part-time. Respondents in the last three categories (homemaker, self-employed, not employed) were not qualified to participate in the survey. The interviewers asked these respondents for a referral to another member of the household who was employed either full-time or part-time. If the respondent provided the referral, the interviewer restarted the interview with the new, qualified respondent.

TABLE 4: CURRENT EMPLOYMENT STATUS
(n=2,564)*

Employment Status	Percent
Yes, part-time	12.6%
Yes, full-time	75.5%
Homemaker	1.7%
Self-employed	6.5%
No, not employed	3.7%

*Note: n=2,564 excludes non-qualified respondents, additional terminates, and refusals

Time Working in the Atlanta Area

Also included in this first screening section was a question about the length of time the respondent had been working in the Atlanta area. As was noted earlier, the evaluation period was set as the time from 1990 to the time of the survey. Only switches that occurred during this time period could be counted. An individual baseline date had to be determined for respondents who were not in the workforce in 1990 so that the measurement team could assess change. Because it was expected that some respondents would have difficulty recalling the date of workforce entry, several prompts followed the initial question. The question series was as follows:

- *"How long have you been working in the Atlanta area?"*
- If the respondent didn't remember, the interviewer would prompt: *"Do you remember about what year you started working here?"*
- If the respondent still could not report a date, the interviewer would prompt: *"Can you remember if it was before 1990?"*

The responses for this question are shown in Table 5. As indicated, about four in ten respondents said they had been working in Atlanta more than 12 years, or before start of the evaluation period (before 1990). The remaining 59% had started working in Atlanta at a later time.

TABLE 5: TIME WORKING IN ATLANTA
(n=2,234)*

Time	Percent
One year or less	9.2%
13 months – 2 years	6.9%
25 months – 3 years	6.5%
37 months – 4 years	5.5%
49 months – 5 years	5.7%
61 months – 6 years	4.1%
73 months – 7 years	4.2%
85 months – 8 years	3.5%
95 months – 9 years	2.1%
103 months – 10 years	5.9%
121 months – 11 years	7.3%
133 months – 12 years	3.1%
More than 12 years (Pre-1990)	41.9%

*Note: n=2,234 excludes non-qualified respondents, additional terminates, and refusals

Current Commute Mode (Current Travel Grid)

Next, interviewers asked all respondents how they had traveled to work each day of the previous week. Interviewers asked respondents if the last week was a typical commuting week. If the answer was "no," the interviewer asked respondents what modes he or she would use to commute in a "typical week" and how many days each mode would be used. The majority (94%) said last week was a typical week. The remaining 6% answered the additional question about travel in a typical week.

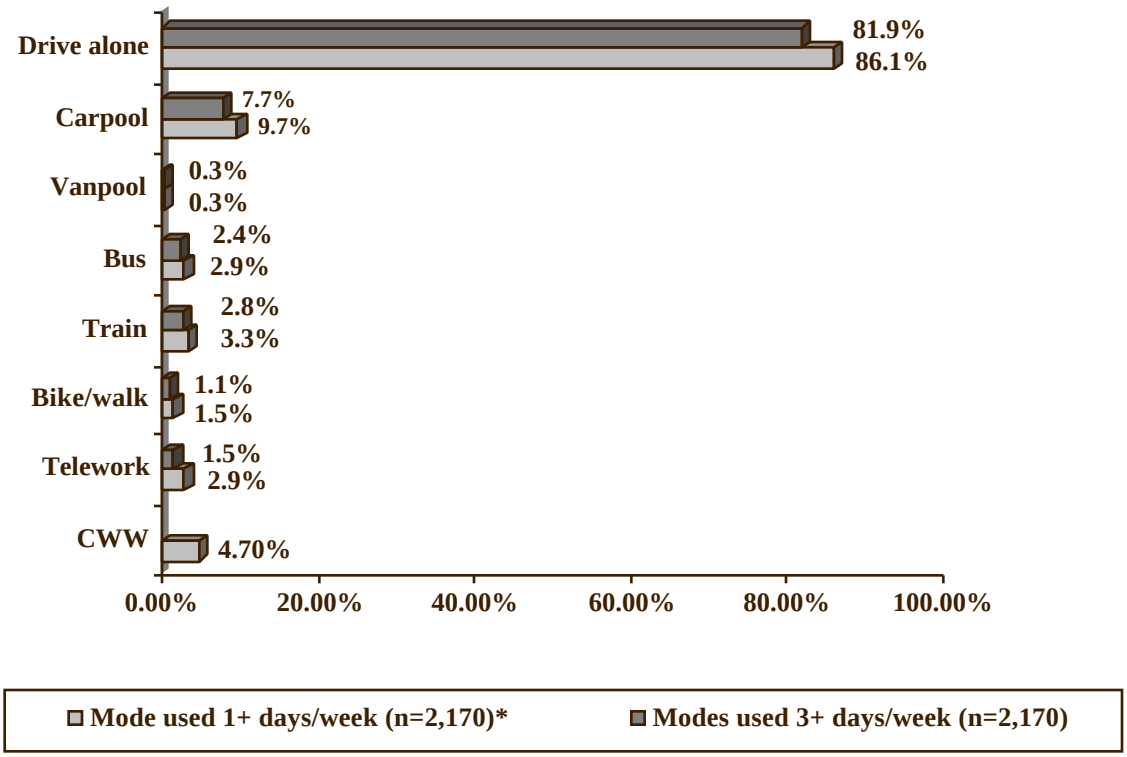
Because it was important to get a complete count for every day of the week, interviewers asked respondents who said they had a 9/80 compressed work schedule day off: "How would you have traveled to work if you had not had the compressed work schedule day off?" Interviewers recorded both the compressed schedule day off and the other mode.

Interviewers asked respondents who did not report that they teleworked in either the last week or typical week if they teleworked one or more days per month. Telework was defined as "working all day during your regularly assigned work hours at home or at another location that is closer to your home than is your usual work location, other than for an off-site meeting." These questions collected information on mode use that could be counted as a mode switch credit, but that did not occur in a typical week.

Current Mode Split by Frequency of Use – Figure 2 shows percentages of respondent and how they traveled to and from work based on frequency of mode use. The top bar of each mode group shows the percentage of respondents who used a mode as their "primary" or "regular" mode, that is they used the mode three or more times per week to commute to and from work. As shown, the most common primary mode was drive alone, used by 81.9% of respondents. The second most popular mode, used by 7.7% of respondents, was carpool.

The bottom bar of each mode group shows the percentage of respondents who use a mode at least one day to travel to and from work during the week. This category also includes respondents who said they used these modes two, three, four, five, or more times during the week. In this case, the percentages of participants using each mode increased, because some respondents who were counted in the three or more days per week category used a secondary mode in addition to their primary mode. Drive alone and carpool were still the most popular modes, with 86.1% of respondents driving alone and 9.7% carpooling either a regularly or occasionally.

FIGURE 2: COMMUTE MODES USED BY WEEKLY FREQUENCY OF USE



* Total will add to more than 100%; multiple responses permitted.

Table 6 summarizes the current mode split as the percentage of weekly trips made for all, with telework and compressed schedules included as "modes." Similar to the frequency of mode use presented in Figure 1, the largest percentage (82.3%) of weekly trips were made driving alone.

TABLE 6: COMMUTE MODE SPLIT BY WEEKLY TRIPS

Commute Mode	**Mode as % of Weekly trips** (n=2,170)
Drive alone	82.3%
Carpool	7.9%
Vanpool	0.3%
Bus	2.5%
Train	2.8%
Bike/walk	1.3%
Telework*	1.7%
Compressed Work Week*	1.1%

*Assumed to be 0.5 weekly trips per respondent for commuters who occasionally telework and work 9/80 compressed work week schedules.

FIRST TEST FOR NON-SWITCHERS

The measurement team derived the results shown above from the "current travel grid" that showed, for each respondent, the modes used by each day of the week. The interviewer also used the grid to define a large group of respondents who could be positively identified as non-switchers, because they drove alone each commute day. A switcher had to be using an alternative mode at least one day per week (or one day every other week for 9/80 compressed schedules) or teleworking occasionally (1-3 times per month on a regular basis).

The results showed that 1,504 respondents, or about 66% of the 2,289 qualified respondents, could be eliminated at this first test for non-switching. These respondents were thanked for participating in the survey and their interviews terminated. Interviewers asked the remaining 785 respondents whose current travel grid showed at least one alternative mode about the type of switches they might have made.

SECOND TEST FOR NON-SWITCHERS

Duration of Alternative Mode Use

The next step in the screening was to determine if respondents had made a mode switch, frequency switch, or occupancy change during the 12-year evaluation period. As mentioned previously, mode switches were examined first, because it was expected that they would constitute the largest percentage of switches.

Since not all respondents had been working in the Atlanta area since 1990, it was necessary first to determine the length of time respondents had used each current alternative mode mentioned in the current travel grid. As with the duration of working in Atlanta, several prompts were included, if necessary, to assist respondents to identify the approximate time of the switch. If the respondent had used more than one alternative mode, the questions about duration were repeated for each alternative mode.

The results of this question are presented in Table 7. Vanpoolers used this mode on average for more than 10 years. Bus riders also were long-time users of this mode; more than six years on average. Respondents used other modes, on average, from just under three years (carpooling) to just under five years (train).

TABLE 7: DURATION OF ALTERNATIVE MODE USE
(n=785)

Alternative Mode	Frequency	Average Months
Carpool	207	33
Vanpool	7	126
Bus	61	74
Train	70	57
Walk	26	46
Bicycle	7	37
Telework (1+ days/week)	61	49
Telework (1-3 days/month)	143	40
4/40 CWS	60	50
9/80 CWS	24	48
3/36 CWS	16	44

Mode Switch Screening

For each respondent, the duration of mode use was compared against 144 months, the number of months elapsed since 1990, or the number of months the respondent had been working in the Atlanta region. If this comparison showed that the start date for the alternative mode was less than 144 months or less than the time working in Atlanta, this respondent was considered a mode switcher. Interviewers asked these respondents follow-up questions to determine the modes used prior to this change and the weekly frequency of use of each mode. About three in five (456 respondents, 58%) of the 785 alternative mode users said their change occurred within the evaluation period.

Interviewers asked respondents who said they made a mode switch what modes they had used before making the switch and how many days in a typical week they used the modes. These results were used to calculate the previous weekly vehicle trips for each respondent.

Frequency Switch Screening

If the comparison of alternative mode duration to the evaluation period showed that the time using the alternative was greater than or equal to 144 months or equal to the time the respondent had worked in Atlanta, the respondent had not made a mode switch. The interviewer asked the respondent questions to determine if a frequency switch had occurred. These respondents were asked if they had increased the number of days per week that they used any of the current alternative modes. For efficiency in the interview, interviewers asked these respondents about the alternative modes they had said they were currently using.

Twenty-five respondents said they increased the number of days they used alternative modes. The remaining 149 respondents said they did not increase alternative mode frequency. The counts by mode for the 25 who made a frequency change are shown below:

Alternative Mode	Respondents with Frequency Change
· Carpool	9
· Bus	3
· Train	4
· Walk	4
· Telework	5

The interviewer asked frequency switchers about their previous travel patterns, but with the modes unchanged from the current modes. As with mode switchers, the measurement team used the data in the previous travel grids to calculate previous weekly vehicle trips for frequency switchers.

Occupancy Switch Screening

Finally, interviewers asked respondents who were currently carpooling, but who said they had not made a mode or frequency shift, if they had increased the number of people riding in the carpool. Seven respondents said they made this switch. Interviewers did not ask vanpoolers this question; vanpool ridership can change frequently and riders might not be able to recall such changes accurately. Further, since vanpools already are assigned a quite small vehicle count (inversely proportional to the number of vanpool riders), the measurement team decided omitting vanpool occupancy changes would result in a very small loss of credit.

CVT AND PVT SWITCHER TESTS

The last section of the screening portion of the survey identified respondents who made switches that reduced the number of weekly commute trips. It might appear that the three previous tests for mode switches, frequency switches, or occupancy switches would have accomplished this task, but this was not necessarily the case. Some of the mode switchers could have switched from higher occupancy alternative modes to lower occupancy modes, and thus increased their number of weekly vehicle trips, despite having made a mode switch.

Additionally, although the questions for frequency and occupancy switches specifically asked respondents if they had *increased* their frequency of alternative mode use or *increased* the number of people in their carpool, it was possible that some respondents could have answered "yes" in error. Finally, some respondents might have decreased their weekly commute trips by reducing the number of days they worked and these reductions could not be classified as mode, frequency, or occupancy switches.

Thus, a final test was needed to identify switches accurately. The test compared the Current Weekly Vehicle Trips (CVT) against the Previous Weekly Vehicle Trips (PVT) to see if weekly vehicle trips had been reduced. If the number of trips declined, the respondent was a switcher.

Current and Previous Travel Grids

As mentioned previously, the interviewer completed the current and previous travel grid for the potential switcher respondents in order to perform the CVT and PVT test. Interviewers based the current travel grid on information provided by the respondents in the last week or typical week travel pattern questions (modes used by each day of the week).

Interviewers based the previous travel grid on information provided in the follow-up questions to identify what type of commute changes may have occurred. The measurement team set the previous travel grid to be the same as the current travel grid for three groups of respondents. The three groups included respondents who said they made an occupancy switch (no changes in modes or frequency of use) and respondents who said they did not make any switches (no changes in mode, frequency, or occupancy). Respondents who said they were not working in Atlanta prior to starting to use their current alternative modes also were assigned the current travel grid as the previous travel grid, but, as described below, their calculation of PVT was addressed differently.

CVT and PVT Calculation

The interviewer determined the CVT and PVT by formulas programmed into the survey questionnaire software. The software calculated CVT the same way for all respondents, as shown below:

CVT = 2 x
((number of days currently driving alone)
+ (number of days currently carpooling / current carpool occupancy)
+ (number of days currently vanpooling / current vanpool occupancy)
– (0.5 X current number of 9/80 CWS days off)
– (0.5 X current number of telework 1-3 times per month))

This calculation added together the number of drive alone days, the number of carpool days divided by carpool occupancy, and the number of vanpool days divided by the vanpool occupancy. If the respondent worked a 9/80 compressed work schedule or said he or she teleworked one to three days per month, the software gave a credit of 0.5 weekly vehicle trips for each of the two modes that applied to that respondent. The software multiplied these totals by two to obtain the weekly one-way vehicle trip count.

The software calculated PVT in much the same way. The formula for this calculation is shown below:

PVT = 2 x
((number of days previously driving alone)
+ (number of days previously carpooling / previous carpool occupancy)
+ (number of days previously vanpooling / previous vanpool occupancy)
– (0.5 X previous number of 9/80 CWS days off)
- (0.5 X previous number of telework 1-3 times per month))

There was one exception to the PVT calculation. The software assumed respondents who were not in the Atlanta workforce before 1990 and respondents who used a single alternative mode the entire time they worked in Atlanta had a previous mode corresponding to the average mode split for the region as estimated in the December 2001 regional transportation survey (8.845 weekly vehicle trips).

CVT and PVT Comparison

Finally, the interviewer compared CVT and PVT for each alternative mode respondent. If PVT was greater than CVT, the respondent had reduced weekly vehicle trips and was a switcher. If PVT was less than or equal to CVT, the respondent had either increased or maintained the number of weekly vehicle trips and was not a switcher.

Respondents who were determined to be non-switchers were thanked for participating in the survey and the interviews were terminated. Because the measurement team needed a pre-determined number of 400 switcher interviews, screening interviews continued until this total was reached. The total

number of screening interviews needed to obtain 400 switchers also was an important data item; it represented the incidence of switching that would be applied to the regional employment population to estimate the total number of switchers in the population at large.

SECTION 5 TRAVEL AND AIR QUALITY EMISSION REDUCTIONS

DEVELOPMENT OF FOUR METHODS TO ESTIMATE COMMUTE TRAVEL REDUCTIONS

The measurement team developed four methods to examine the travel and emission reductions from commute changes using various assumptions about the nature and timing of the commute changes and the motivations for the changes. As described below, Method 1, 2, and 3 present a regional assessment of commute changes. Method 4 involves a more specific assessment of regional commute changes associated directly with VMEPs. As such, Method 1 through 3 includes both VMEP and "collateral" commute changes, while Method 4 includes only commute changes participants associate with a VMEP.

A brief summary of each method is presented below. Appendix A-3 presents a detailed description of the travel and air quality emission reductions calculation steps for these measures.

Method 1 – All Regional Commute Changes during 12-Year Evaluation Period

Method 1 credits reductions from commute changes that have occurred in the region anytime since the baseline year. This method does not consider the motivation for commute changes, and, specifically, if a VMEP influenced the changes.

Method 1 also counts only commute changes that reduce weekly vehicle trips, that is, changes from single occupant vehicles to alternative modes and changes from lower occupancy modes to higher occupancy modes. It does not include respondents whose commute changes increased their weekly vehicle trips, such as would occur if a commuter switched from transit to carpooling. Nor does it include commuters who switched from alternative modes to driving alone, which would also result in increased weekly vehicle trips. As such, Method 1 does not reflect the full range of commute changes that occurred during this time period.

The resulting alternative mode placements and travel and emission reductions for Method 1 are shown in Table 10. As shown, the results form this method exceed the VMEP commuter placement, VMT, and emission targets, but they do not meet the vehicle trip target.

TABLE 10: METHOD 1 – DAILY TRAVEL AND EMISSION REDUCTIONS FOR COMMUTE TRAVEL CHANGES

Impact Measure	12-year	VMEP SIP Targets
Commuter placements	308,550	147,384
Daily vehicle trips reduced	258,318	294,768
Daily VMT reduced	5,088,867	4,421,487
Daily NO_x emissions reduced (tons per day)	6.00	4.28
Daily VOC emissions reduced (tons per day)	6.95	6.51

Method 2 – Regional Commute Changes during Abbreviated Evaluation Period

Like Method 1, Method 2 does not consider the motivation for commute changes or account for the full range of commute changes. However, Method 2 does consider the time period from when commute changes took place by crediting reductions from commute changes that occurred during the time period when the region implemented VMEPs in earnest. Method 2 examines commute changes

occurring over the past five years (Method 2-5Y) and commute changes occurring over the past two years (Method 2-2Y).

The 5-year evaluation period begins at the time when the region initiated many of the current local and regional commute services, such as the regional rideshare database and state and federal employer commute assistance programs. The 2-year evaluation period begins at the time the region initiated a large-scale media campaign and increased employer outreach to promote private sector employer commute assistance programs.

The resulting alternative mode placements and travel and emission reductions for Method 2 are shown in Table 11. As shown, the results for the 5-year evaluation period would meet the commuter placement, VMT, and NO_x targets but not the vehicle trip and VOC targets. Results for the 2-year period would meet the commuter placement target and nearly meet the NO_x target, but would fall substantially short of the vehicle trip, VMT, and VOC targets.

TABLE 11: METHOD 2 – DAILY TRAVEL AND EMISSION REDUCTIONS FOR COMMUTE TRAVEL CHANGES

Impact Measure	5-year (2-5Y)	2-year (2-2Y)	VMEP SIP Targets
Commuter placements	269,981	205,186	147,384
Daily vehicle trips reduced	227,713	176,341	294,768
Daily VMT reduced	4,510,995	3,539,159	4,421,487
Daily NO_x emissions reduced (tons per day)	5.45	4.25	4.28
Daily VOC emissions reduced (tons per day)	6.32	4.92	6.51

Method 3 – Higher to Lower Occupancy Adjustment

Method 3 partially addresses the issue of measuring the full range of commute changes by factoring in switches from higher to lower occupancy alternative modes, for example from transit to carpool. This method provides an indication of at least part of the potential negative impact of commute changes that increase weekly vehicle trips. Method 3 does not account for all negative impacts, because it does not include switches from alternative modes to driving alone. The method examines all three time periods described earlier: 12-year, 5-year, and 2-year.

The resulting alternative mode placements and travel and emission reductions for Method 3 are shown above in Table 12. The commuter placement targets are met for all time periods, but the vehicle trip targets are not. The VMT target is met for the 12-year period only and NO_x targets are met for the 12-year and five-year periods. None of the results meet the VOC target.

TABLE 12: METHOD 3 – DAILY TRAVEL AND EMISSION REDUCTIONS FOR COMMUTE TRAVEL CHANGES

Impact Measure	12-year High to Low Occupancy Adjustment (3-12Y)	5-year High to Low Occupancy Adjustment (3-5Y)	2-year High to Low Occupancy Adjustment (3-2Y)	VMEP SIP Targets
Commuter placements	308,550	269,981	205,186	147,384
Daily vehicle trips reduced	227,721	207,402	159,525	294,768
Daily VMT reduced	4,486,099	4,108,628	3,201,663	4,421,487
Daily NO_x emissions reduced (tons per day)	5.29	4.97	3.85	4.28
Daily VOC emissions reduced (tons per day)	6.13	5.75	4.46	6.51

Method 4 – Direct Attribution to VMEPs and Higher to Lower Occupancy Adjustment

Method 4 considers the motivation for commute changes, and specifically VMEPs that might influence commute behavior. Method 4 credits only influences from VMEP messages and services respondents can name or recall. As a result, it does not count the subconscious effect or indirect impact of VMEPs that are not immediately evident or obvious to individuals making commute changes. It is likely that many commuters are prompted to make commute changes, but are not fully aware of the influences (either influences on them or on a rideshare partner) that led to the change. The results from Method 4 fall substantially short of all VMEP targets.

The survey asked switchers what factors influenced their decisions to make commute changes. The factors cited by respondents (unprompted) that could reflect an influence of VMEPs are listed below, along with the percentages of respondents who noted them:

- Received carpool/vanpool/transit subsidy 1.3% of respondents
- Received other commute service from employer 1.5%
- Received commute service from other organization 0.5%
- Saw/heard ad/news story about commute options 0.5%

To attempt to identify all direct influence, survey interviewers directly asked respondents who did not mention one of the first three influences if the switch was influenced by "any information or service provided to you by your employer or by an organization that provides commute information or services?" About one in eight respondents (12.0%) said the information or service influence their changes and 4.9% said the information or service "somewhat influenced" the change. These percentages, combined with the percentages noted above, suggest that about 20.7% of respondents were influenced by such a service.

More than four in ten respondents (42.4%) said no service or information influenced them and another 40.6% said they did not receive any information or services.

Switchers mentioned two other influence factors that possibly were related to activities undertaken by a local or regional commute services organizations, but these influences could have occurred without any commute program assistance:

- Telework became available 12.3%
- Change in work schedule/CWS became available 6.3%

It is important to note that survey interviewers directly asked respondents who mentioned these two influences also if their commute change was influenced by "any information or service provided to you by your employer or by an organization that provides commute information or services?" Thus, these respondents were given the opportunity to define what influenced them to telework, make a work schedule change, or work a compressed work week schedule.

The resulting alternative mode placements and travel and emission reductions, which fall substantially short of the VMEP targets, are shown in Table 13.

TABLE 13: METHOD 4 – DAILY TRAVEL AND EMISSION REDUCTIONS FOR COMMUTE TRAVEL CHANGES

Impact Measure	12-year High to Low Occupancy & Influence Adjustment (4-12Y)	5-year High to Low Occupancy & Influence Adjustment (4-5Y)	2-year High to Low Occupancy & Influence Adjustment (4-2Y)	VMEP Targets
Commuter placements	60,939	50,139	37,026	147,384
Daily vehicle trips reduced	42,027	35,779	28,502	294,768
Daily VMT reduced	907,355	819,693	633,031	4,421,487
Daily NO_x emissions reduced (tons per day)	1.04	0.93	0.71	4.28
Daily VOC emissions reduced (tons per day)	1.21	1.08	0.82	6.51

SECTION 6 RECOMMENDATIONS AND CONCLUSIONS

The survey findings identify a difference between measured data and the TDM attainment scenario described in Appendix XXV of the SIP. The number of commuter placements identified in the survey revealed that EPD underestimated the overall number of commuter related placements and overestimated the number of daily vehicle trips reduced as a result of these commuter placements.

The TDM scenario proposed by EPD also overestimates the number of VMEP associated commuter placements. A comparison of the commuter placement estimates for Method 3 and Method 4 reveal that VMEP related commuter placements currently make up about 20% of regional placements, with "collateral" participation making up the remaining 80% of regional placements. The EPD scenario estimated approximately 90% of the commuter placements would come from VMEPs. It is likely a higher percentage of commuter placements are associated with VMEPs than identified in the regional switcher survey, but, due to the difficulty in identifying why people make commute changes, VMEP related participation or commuter placements cannot be measured accurately.

As stated previously, many commuters are prompted to make commute changes, but are not fully aware of VMEP influences on them or on their rideshare partners. Therefore, any attempts to determine the VMEP and collateral participation influence will always show a higher percentage of collateral participation, some of which has been influenced indirectly by VMEPs. These findings support the focus that EPD has on the total emission reductions to be achieved and not on the distinction between VMEP and collateral participation or commute changes, since it may be impossible to accurately determine the influences VMEP related messages and services have on commuters.

These findings suggest several recommendations EPD should consider when refining the methods and data collection tools for future VMEP target assessments. The recommendations, if implemented, will allow EPD to assess both VMEP and collateral participation, or both regional commute changes and commute changes directly associated with VMEPs. The recommendations include:

- **Collect data on "drive alone switchers".** The recommendation involves expanding the regional switcher survey to capture all types of commute changes, including commuters who switch from an alternative mode to drive alone. EPD could then include the full range of commute change impacts in the overall regional behavior change assessment.

- **Refine methodology questions related to VMEP influence.** The recommendation involves refining the survey to include more detailed questions about why commuters made commute changes and the potential influence of VMEPs on the commute changes in order to examine causality more thoroughly. Examining influence more thoroughly may help address, to some degree, the possible undercounting of commute changes influenced by VMEPs. However, VMEP related commuter placements measured via a regional transportation survey are likely always to represent a conservative, lower bound estimate of VMEP related travel and emission reductions, due to the difficulty in identifying why people make commute changes.

APPENDIX A-1 – SURVEY QUESTIONNAIRE

Atlanta Survey - #860
Alternative Mode "Switcher" Survey Questionnaire – Final

Overview: The survey calls randomly-selected commuters in the Atlanta region and asks a series of questions to identify "qualified" commuters who made a commute pattern switch that reduced their number of weekly vehicle trips. Qualified commuters are commuters who are: 18+ years old, employed (full-time or part-time), not self-employed, and resident of one of 13 counties.

Qualified commuters are asked questions to determine their current travel patterns. Commuters who use alt modes now are asked additional questions to determine if they have made any of the following changes that would reduce weekly commute vehicle trips:

1) shift from drive alone to alt mode
2) shift from lower to higher occupancy alt mode (e.g., carpool to transit)
3) increase frequency of alt mode use
4) start/increase use of Telework/Telecommute or Compressed Work Schedule
5) reduce number of weekdays they commute (e.g., full-time weekday to part-time weekday)

Respondents who meet "switcher" tests are asked additional travel questions (e.g., distance and access to alt modes), questions about services or factors that influenced their switches, and demographic questions.

Survey sections

1) **Non-Switcher Screeners (asked of all respondents) –** Screens for qualified commuters and defines years in Atlanta. Defines current commute modes and frequency of use and creates "current travel grid." Establishes current CP/VP occupancy. Screens <u>out</u> respondents who drive alone full-time

2) **Mode Switch Screeners (asked of respondents who use an alt mode, including CWS or TC, during a "typical week")** – Identifies respondents who switched to a new alt mode since 1990 or since they entered the Atlanta workforce, defines previous mode (modes), and establishes mode frequency for a previous "last/typical week"

3) **Frequency Switch Screeners (asked of respondents who use an alt mode but did not change mode)** – Identifies respondents who increased the frequency of alt mode use and establishes the mode frequency for a previous "last/typical week"

4) **Occupancy Switch Screeners (asked of respondents who use an alt mode but did not change mode or frequency)** – Identifies respondents who increased the occupancy of their carpool and identifies the previous occupancy of the carpool.

5) **Past Travel Grid (established for all alt mode users)** – Establishes modes and frequencies of past mode use (or sets past mode use to be equal to current mode use for current alt mode users who have not made a change)

6) **Switcher Tests (all alt mode users)** – Calculates "current weekly vehicle trips (CVT)" and "past weekly vehicle trips "PVT." Compares PVT to CVT to determine if vehicle trips have been reduced from past to current travel. If vehicle trips have been reduced, respondent is a switcher.

7) **Switcher Questions (asked of respondents who qualify as switchers)** – Asks additional travel pattern, influence, and demographic questions

Switcher Survey

Intro

Hello. My name is_____ . I'm calling from CIC Research, a survey research firm on behalf of GDOT (Georgia Department of Transportation). We're talking to Atlanta area residents about commuting to work. (IF NECESSARY: This is a genuine survey. No attempt will be made to sell you anything.) I'd like to ask you a few questions. Your responses will be completely confidential and will be used only together with those of other respondents.. It will take only a few minutes. Can you help us out?

SECTION 1) NON-SWITCHER SCREENERS

Identify "qualified" commuters

S1. In what county do you live?

Cherokee	Douglas	Henry
Clayton	Fayette	Paulding
Cobb	Forsyth	Rockdale
Coweta	Fulton	
DeKalb	Gwinnett	Other _____ **(THANK & TERMINATE)**

S1A. Are you 18 years of age or older?

1 Yes **[CONTINUE]**
2 No **(SEEK REFERRAL)**
3 Refused **(SEEK REFERRAL)**

S2. How many members of your household are currently employed?

_____

0 No workers in the household (THANK and TERMINATE)

S2A. Are you currently employed outside the home? **(IF YES)** Is that part-time, which is less than 35 hours per week, or full-time, which is 35 or more hours per week?

1 Yes, part-time (<35 hours per week)
2 Yes, full-time (35+ hours per week)
3 Homemaker **(SEEK REFERRAL)**
4 Self-employed **(SEEK REFERRAL)**
5 No, not employed **(SEEK REFERRAL)**
6 Don't know/Refused **(SEEK REFERRAL)**

S3. How long have you been working in the Atlanta area? **(IF RESPONDENT SAYS "DON'T KNOW," PROMPT)** "Do you remember about what year you started working here?" **(IF RESPONDENT STILL CAN'T DEFINE WHEN, PROMPT)** "Can you remember if it was before 1990" **(IF RESPONDENT REPORTS LESS THAN ONE MONTH, RECORD "ONE MONTH")**

_____ months **(INTERVIEWER CONVERT YEARS TO MONTHS)**

S4. Gender **[BY OBSERVATION]**

1 Male **[WEIGHT TO 48%]**
2 Female **[WEIGHT TO 52%]**

IF Q.S2A NE 2, SKIP TO Q.S4C

S4A Do you work a compressed work schedule, for example, working four ten-hour days per week, with one week day off each week, or 80 hours in nine days, with one week day off every two weeks?

1 Yes
2 No **(SKIP TO Q.S4C)**
3 Don't know/Refused **[DO NOT READ] (SKIP TO Q.S4C)**

S4B What type of compressed work schedule do you work? A 4/40, a 9/80, a 3/36, or something else?

1 4/40 - that is, 40 hours in four days with one weekday off each week
2 9/80 - that is, 80 hours in a nine day period with one weekday off every two weeks
3 3/36 - that is, 36 hours in three work days with two weekdays off each week
4 Other (specify) _____

S4C Now I'd like to ask a few questions about your current commute. If you work more than one job, please give us information on your commute to your primary job. First, in a typical week, how many days are you assigned to work?
____ days

Establish Current Travel Grid (Mode(s) used and frequency)

S5 Next, how do you travel to work? Thinking about LAST WEEK, how did you get to work each day. Let's start with Monday?… How about Tuesday? … Wednesday?… Thursday?… Friday?

(IF Q.S4B = 2 AND RESPONDENT MENTIONS "COMPRESSED WORK SCHEDULE DAY OFF" FOR ANY DAY MONDAY THROUGH FRIDAY, RECORD RESPONSE 2 FOR THAT DAY, THEN ASK) How would you have traveled to work if you had not had the compressed work schedule day off? **(THEN RECORD THIS RESPONSE <u>ALSO</u> AS GIVEN FOR THAT DAY)**

(IF ALL DAYS IN Q.S4C ARE ACCOUNTED FOR BY MODES 1, 3, 4, 5, 6, 7, 8, 9, 10, 11 IN Q5, CATI WILL AUTOFILL SAT & SUN WITH CODE 12 AND SKIP TO Q.S5X; OTHERWISE CONTINUE)

Are you **REGULARLY ASSIGNED** to work on Saturday or Sunday? **(IF YES, ASK)** "and how did you travel to work on these days last week? **(RECORD ANSWER AS GIVEN.) (IF RESPONDENT IS NOT ASSIGNED TO WORK ON SATURDAY OR SUNDAY, RECORD "DID NOT WORK")**

(IF RESPONDENT MENTIONS TWO MODES (OTHER THAN 9/80 COMPRESSED WORK SCHEDULE) FOR ANY DAY, ASK) Which type of transportation did you use for the longest distance portion of your trip?

(IF RESPONDENT MENTIONS "TELEWORK / TELECOMMUTE" OR "COMPRESSED WORK SCHEDULE DAY OFF" FOR SATURDAY OR SUNDAY, ASK) Is this a regularly assigned work day for you? **(IF "YES," RECORD ANSWER AS GIVEN. IF "NO," RECORD "DID NOT WORK.")**

(TOTAL NUMBER OF DAYS REPORTED IN RESPONSES 1-11 MUST EQUAL SEVEN, IF FEWER THAN SEVEN DAYS CODED 1-11 CODE REMAINING DAYS AS "DID NOT WORK (13)"

	Mode Used Monday – Sunday						
Mode/days used last week	M	Tu	W	Th	F	Sa	Su
1 had a 4/40 CWS day off	M	Tu	W	Th	F	Sa	Su
2 had a 9/80 CWS day off	M	Tu	W	Th	F	Sa	Su
3 had a 3/36 CWS day off	M	Tu	W	Th	F	Sa	Su
4 drove alone in your car or motorcycle	M	Tu	W	Th	F	Sa	Su
5 carpooled, including carpool w/family	M	Tu	W	Th	F	Sa	Su
6 vanpooled	M	Tu	W	Th	F	Sa	Su
7 rode a bus	M	Tu	W	Th	F	Sa	Su
8 rode a train or subway	M	Tu	W	Th	F	Sa	Su
9 walked	M	Tu	W	Th	F	Sa	Su
10 bicycled	M	Tu	W	Th	F	Sa	Su
11 telecommuted/teleworked (1+ days per week)	M	Tu	W	Th	F	Sa	Su
12 did not work/usual day off	M	Tu	W	Th	F	Sa	Su

S5X Was last week a typical commuting week for you~~?~~
Yes (SKIP TO Q5A)
No (CONTINUE)

S5Y Thinking about a TYPICAL WORK WEEK, how many days would you usually …? If you work more than one job, please give us information on your commute to your primary job.

IF Q.S4B = 1, ASK RESPONSE "1" IN GRID

IF Q.S4B = 2, ASK RESPONSE "2" IN GRID (RECORD "1" IN RESPONSE 2) (IF RESPONDENT MENTIONS "1" OR "ONE DAY EVERY OTHER WEEK," RECORD "1" IN RESPONSE 2, THEN ASK) How would you travel to work in the week you do not have the compressed work schedule day off? How many days would you usually …? **(THEN RECORD RESPONSES AS GIVEN)**

IF Q.S4B = 3, ASK RESPONSE "3" IN GRID

OTHERWISE, SKIP TO RESPONSE 4

(IF ALL DAYS IN S4C ARE ACCOUNTED FOR BY MODES 1, 3, 4, 5, 6, 7, 8, 9, 10, 11 IN Q.S5Y, CATI WILL AUTOFILL REMAINING DAYS WITH CODE 13; OTHERWISE CONTINUE ASKING ABOUT MODES)

	Number of days						
Mode/ Number of days	1	2	3	4	5	6	7
1 have a 4/40 CWS day off	1	-	-	-	-	-	-
2 have a 9/80 CWS day off	1	-	-	-	-	-	-
3 have a 3/36 CWS day off	1	2	-	-	-	-	-
4 drive alone in your car or motorcycle	1	2	3	4	5	6	7
5 carpool, including carpool w/family	1	2	3	4	5	6	7
6 vanpool	1	2	3	4	5	6	7
7 ride a bus	1	2	3	4	5	6	7
8 ride a train or subway	1	2	3	4	5	6	7
9 walk	1	2	3	4	5	6	7
10 bicycle	1	2	3	4	5	6	7
11 telecommute/telework (1+ days per week)	1	2	3	4	5	6	7
12 do not work/usual day off	1	2	3	4	5	6	7

IF Q.S5X = 2, CURRENT TRAVEL GRID FROM Q.S5Y WILL SUPERCEDE GRID REPORTED IN Q.S5 FOR ALL FUTURE QUESTIONS REFERRING TO Q.S5 AND Q.S5Y.

IF Q.S5 OR Q.S5Y, RESPONSE 11 GE 1, SKIP TO Q.S5C

S5A Do you telework or telecommute one or more days per month. By telework/telecommute, I mean work all day during your regularly assigned work hours at home or at another location that is closer to your home than is your usual work location, other than for an off-site meeting?

1 yes **(ASK Q.S5B)**
2 no **(SKIP TO Q.S5C)**

S5B How often do you telework or telecommute?

1 1 – 3 times per month **(ADD S.Q5 OR S.Q5Y, RESPONSE 12 = 1)**
2 Less than once per month/in emergencies only
3 Other _____

IF Q.S5 OR Q.S5Y, RESPONSE 5 = 0, SKIP TO Q.S5D

S5C Including yourself, how many people usually ride in your carpool?
_____ total people in carpool (2-6 people)

IF Q.S5, RESPONSE 6 = 0, SKIP TO FIRST TEST FOR NON-SWITCHERS

S5D Including yourself, how many people usually ride in your vanpool?
_____ total people in vanpool (5-15 people)

FIRST TESTS FOR NON-SWITCHERS

IF Q.S5 OR Q.S5Y RESPONSES 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12 = 0,
IT MEANS THAT RESPONDENT DRIVES ALONE ALL DAYS WORKED AND DOES NOT TELECOMMUTE AT LEAST ONE DAY PER MONTH, AND THEREFORE RESPONDENT IS A NON-SWITCHER, THANK AND TERMINATE

SECTION 2) MODE SWITCH SCREENERS

Determine length of time respondent has used each current alt mode mentioned in Q.S5 or Q.S5Y.

S6 Next, I want to ask you about changes you might have made in your commute. First, how long have you been (carpooling, vanpooling, riding the bus, riding the train, walking, bicycling, teleworking, using a compressed work schedule: **FIRST MODE REPORTED IN Q.S5 OR Q.S5Y)?**
(IF RESPONDENT REPORTS NUMBER OF YEARS, CONVERT TO MONTHS, IF RESPONDENT REPORTS LESS THAN ONE MONTH, RECORD "1 MONTH")

(IF RESPONDENT SAYS "DON'T KNOW," PROMPT) "Do you remember about what year you started (carpooling, vanpooling, riding the bus, riding the train, walking, bicycling, teleworking, using a compressed work schedule: **FROM Q.S5 OR Q.S5Y)? CONVERT YEARS TO MONTHS**

(IF MORE THAN ONE ALT MODE WAS NAMED IN Q.S5 OR Q.S5Y, REPEAT Q.S6 FOR EACH ALT MODE) And how long have you been (carpooling, vanpooling, riding the bus, riding the train, walking, bicycling, teleworking, using a compressed work schedule: **FROM Q.S5 OR Q.S5Y)?**

REPORT DURATION OF MODE USE BELOW FOR ALL ALT MODES CURRENTLY USED

1	carpooled	_____ months
2	vanpooled	_____ months
3	rode bus	_____ months
4	rode train	_____ months
5	walked	_____ months
6	bicycled	_____ months
7	teleworking	_____ months
8	using a CWS	_____ months

TEST FOR MODE CHANGE SINCE 1990 OR SINCE STARTING TO WORK IN ATLANTA

Has respondent started using an alt mode since 1990 or since entering Atlanta workforce? If yes, ask Questions 7-10 to determine past modes and past mode frequency.
IF Q.S3 GE 144 AND Q.S6 LT 144 MONTHS FOR ANY ALT MODE, ASK Q.S7
IF Q.S3 LT 144 AND Q.S6 LT Q.S3, FOR ANY ALT MODE, ASK Q.S7

Define one alt mode from Q.S6 that will be used for further questions

INTERVIEWER: SELECT MODE WITH FEWEST MONTHS USED. IF THERE IS A TIE ON THE 3 OF MONTHS, SELECT MODE WITH MOST DAYS. IF TC 1-3 DAYS/MONTH PLUS ANOTHER MODE, SELECT OTHER MODE.

If no mode change since 1990 or since entering Atlanta workforce, respondent has not made a mode switch. Skip to Q.S9A to define previous days worked, then skip to Q.S11 to test for frequency switches for current alt modes.
IF Q.S3 GE 144 AND Q.S6 GE 144 MONTHS FOR ALL ALT MODES, SKIP TO Q.S9A
IF Q.S3 LT 144 AND Q.S6 EQ Q.S3, FOR ALL ALT MODES, SKIP TO Q.S9A

Past Commute Travel Data for Mode Switchers

S7 Now think about a typical week just before you started (carpooling, vanpooling, riding the bus, riding the train, walking, bicycling, teleworking, using a compressed work schedule: **FROM Q.S6**). What type or types of transportation were you using to travel to work just before you made this change? **(ALLOW MULTIPLE RESPONSES FOR RESPONSES 1-9, DO NOT ALLOW MULTIPLE RESPONSES IF RESPONSES 10-12 ARE GIVEN)**

1 Driving alone
2 Carpool
3 Vanpool
4 Bus
5 Train
6 Walk
7 Bicycle
8 Teleworking
9 Compressed work schedule
10 Always/only used (___) **(INSERT ALT MODE FROM Q.S6, SKIP TO TEST BEFORE Q.S9A)**
11 Did not work then **(SKIP TO TEST BEFORE Q.S9A)**
12 Did not live in Atlanta then **(SKIP TO TEST BEFORE Q.S9A)**

IF Q.S7 = 9, SKIP TO Q.S8A

S8 In a typical week, before you started (carpooling, vanpooling, riding the bus, riding the train, walking, bicycling, teleworking: **FROM Q.S6**), did you work a compressed work schedule?

1 yes **(CONTINUE. PROGRAMMER: ADD Q.S7 = 9)**
2 no **(SKIP TO Q.S9)**
3 Don't know/refused **(SKIP TO Q.S9)**

S8A What type of compressed schedule did you work? A 4/40, a 9/80, a 3/36, or something else?

1 4/40 - that is, 40 hours in four days with one weekday off each week
2 9/80 - that is, 80 hours in a nine day period with one weekday off every two weeks
3 3/36 - that is, 36 hours in three work days with two weekdays off each week
4 Other (specify) _____

IF Q.S7 = 8, SKIP TO Q.S9A

S9 Before you started (carpooling, vanpooling, riding the bus, riding the train, walking, bicycling, using a compressed work schedule: **FROM Q.S6**), did you telework one or more days per month on average?

1 yes **(ADD Q.S7 = 8)**
2 no
3 Don't know/refused

IF Q.S7 = 8 AND RESPONDENT HAS NOT MENTIONED TELEWORKING, ASK

S9TM Before you you started (carpooling, vanpooling, riding the bus, riding the train, walking, bicycling, using a compressed work schedule: **FROM Q.S6**), how often did you usually telecommute?

1 1 – 3 times per month **(RECORD 1 DAY IN RESPONSE "12")**
2 Less than once per month/in emergencies only
3 Other _____

ESTABLISH PAST TRAVEL GRID FOR MODE SWITCHERS

TEST BEFORE Q.S9A

IF Q.S7 = 10, ASK Q.S9A, THEN SKIP TO Q.S11 *(If respondent has "always used" his/her current alt modes, the respondent is not a mode switcher and skips to Question S9A to determine previous days worked per week, then to Q.S11 to test frequency switches)*

IF Q.S7 = 11 OR 12, ASK Q.S9A, RECORD SEVEN DAYS "NOT WORKING IN ATLANTA ("14")" IN Q.S10, THEN SKIP TO Q.S11) *(If respondent was not in Atlanta workforce before starting to use this(these) alt modes, the respondent is not a mode switcher and skips to Question 11 to test frequency switches)*

S9A Before you started (carpooling, vanpooling, riding the bus, riding the train, walking, bicycling, teleworking, using a compressed work schedule: **FROM Q.S6**) to work, how many days were you assigned to work in a typical week?
____ days

S10 **IF Q.S8A= 2, RECORD ONE DAY FOR Q.S10 RESPONSE "2," THEN ASK**
You said that you used to work a 9/80 compressed work schedule. Before you started (carpooling, vanpooling, riding the bus, riding the train, walking, bicycling, teleworking: **FROM Q.S6**) to work how did you travel to work in the weeks you did not have the compressed work schedule day off? How many days did you usually …?

IF Q.S7 NE 9 OR Q.S8A = 1 OR 3, ASK
At that time, how many days a week did you usually (drive alone, carpool, vanpool, ride the bus, ride the train, walk, bicycle, telework, have a compressed work schedule day off: **FROM Q.S7?**

IF MORE THAN ONE MODE REPORTED IN Q.S7, REPEAT FOR ALL RESPONSES)
And how many days did you usually (drive alone, carpool, vanpool, ride the bus, ride the train, walk, bicycle, telework, have a compressed work schedule day off: **OTHER ALT MODES FROM Q.S7)?**

IF ALL DAYS IN S9A ARE ACCOUNTED FOR BY MODES 1, 3, 4, 5, 6, 7, 8, 9, 10, 11 IN Q.S10, CATI WILL AUTOFILL REMAINING DAYS WITH CODE 13; OTHERWISE CONTINUE ASKING ABOUT MODES)

TOTAL NUMBER OF DAYS REPORTED IN RESPONSES 1, 3, 4, 5, 6, 7, 8, 9 ,10, 11 MUST EQUAL SEVEN. IF ALL MODES FROM Q.S7 HAVE BEEN MENTIONED AND FEWER THAN SEVEN DAYS CODED 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, CODE REMAINING DAYS AS "DID NOT WORK (13)"

	Number of days						
Mode/ Number of days	1	2	3	4	5	6	7
1 had a 4/40 CWS day off	1	-	-	-	-	-	-
2 had a 9/80 CWS day off	1	-	-	-	-	-	-
3 had a 3/36 CWS day off	1	2	-	-	-	-	-
4 drove alone in your car or motorcycle	1	2	3	4	5	6	7
5 carpooled, including carpool w/family	1	2	3	4	5	6	7
6 vanpooled	1	2	3	4	5	6	7
7 rode a bus	1	2	3	4	5	6	7
8 rode a train or subway	1	2	3	4	5	6	7
9 walked	1	2	3	4	5	6	7
10 bicycled	1	2	3	4	5	6	7
11 telecommuted/teleworked (1+ days per week)	1	2	3	4	5	6	7
12 telecommuted/teleworked (1-3 days per month)	1	-	-	-	-	-	-
13 did not work/usual day off	1	2	3	4	5	6	7
14 not working in Atlanta before	1	2	3	4	5	6	7

SKIP TO Q.S15 *(mode switchers are not asked additional questions about changes – they are taken immediately to the Test for Switchers)*

SECTION 3) FREQUENCY SWITCH SCREENERS

TEST FOR FREQUENCY CHANGES (asked of alt mode users who did not switch modes)

S11 Since the time you started (carpooling, vanpooling, riding the bus, riding the train, walking, bicycling, teleworking, using a compressed work schedule: **FROM QS6)**, have you increased the number of days you used this option for your commute?

1 Yes, increased number of days carpooling
2 Yes, increased number of days vanpooling
3 Yes, increased number of days riding the bus
4 Yes, increased number of days riding the train
5 Yes, increased number of days walking
6 Yes, increased number of days bicycling
7 Yes, increased number of days teleworking/telecommuting
8 Yes, increased number of CWS days off
9 No, did not increase days using any alt mode **(SKIP TO TEST BEFORE Q.S13)**
10 Don't know/Refused **[DO NOT READ] (SKIP TO TEST BEFORE Q.S13)**

ESTABLISH PAST TRAVEL GRID FOR FREQUENCY SWITCHERS

S12 In a typical week, how many days did you usually (carpool, vanpool, ride the bus, ride the train, walk, bicycle: **ALT MODES FROM Q.S11)** before you made this change?

IF Q.S11= 8, ASK: How many weekdays did you usually have a compressed schedule day off? **(IF RESPONSE IS "1 DAY OFF EVERY TWO WEEKS, RECORD ONE DAY FOR RESPONSE "2")**

IF Q.S11 = 7, ASK: How often did you usually telework before?

1 5 or more days per week **(RECORD 5 DAYS IN RESPONSE "11")**
2 4 days per week **(RECORD 4 DAYS IN RESPONSE "11")**
3 3 days per week **(RECORD 3 DAYS IN RESPONSE "11")**
4 2 days per week **(RECORD 2 DAYS IN RESPONSE "11")**
5 1 day per week **(RECORD 1 DAY IN RESPONSE "11")**
6 1 – 3 times per month **(RECORD 1 DAY IN RESPONSE "12")**
7 Less than once per month/in emergencies only
8 Other _____

IF ALL DAYS IN S9A ARE ACCOUNTED FOR BY MODES 1, 3, 4, 5, 6, 7, 8, 9, 10, 11 IN Q.S12, CATI WILL AUTOFILL REMAINING DAYS WITH CODE 13; OTHERWISE CONTINUE ASKING ABOUT MODES; ASK) "How did you travel on the other days?"

	Number of days						
Mode/ Number of days	1	2	3	4	5	6	7
1 had a 4/40 CWS day off	1	-	-	-	-	-	-
2 had a 9/80 CWS day off	1	-	-	-	-	-	-
3 had a 3/36 CWS day off	1	2	-	-	-	-	-
4 drove alone in your car or motorcycle	1	2	3	4	5	6	7
5 carpooled, including carpool w/family	1	2	3	4	5	6	7
6 vanpooled	1	2	3	4	5	6	7
7 rode a bus	1	2	3	4	5	6	7
8 rode a train or subway	1	2	3	4	5	6	7
9 walked	1	2	3	4	5	6	7
10 bicycled	1	2	3	4	5	6	7
11 telecommuted/teleworked (1+ days per week)	1	2	3	4	5	6	7
12 telecommuted/teleworked (1-3 days per month)	1	-	-	-	-	-	-
13 did not work/usual day off	1	2	3	4	5	6	7

SKIP TO Q.S15 *(frequency switchers are not asked additional questions about changes – they are taken immediately to the Test for Switchers)*

SECTION 4) OCCUPANCY SWITCH SCREENERS

TEST BEFORE Q.S13 ***(test for curent use of carpool)***
IF Q.S5 OR Q.S5Y = 5, CONTINUE, OTHERWISE, SKIP TO Q.S15

S13 Again, since the time you started carpooling, have you increased the number of people riding in your carpool, for example, from two people to three?

1 Yes
2 No **(SKIP TO Q.S15)**
3 Don't know/Refused **[DO NOT READ] (SKIP TO Q.S15)**

S14 Including yourself, how many people were in your old carpool?
_____ total people in carpool (2-6 people)

SECTION 5) PAST TRAVEL GRID

S15 (AUTOMATIC FILL BY CATI, NO QUESTION ASKED)

REPEAT GRID FROM Q.S10 OR Q.S12, IF GRIDS WERE COMPLETED
IF Q.S11 = 9 OR 10, REPEAT GRID FROM Q.S5 OR Q.S5Y
IF Q.S10 = "Not Working in Atlanta" & Q.S11 = 9 or DK, THEN FILL WITH Q.S5 OR Q.S5Y

	Days using mode						
Mode/ Number of days	1	2	3	4	5	6	7
1 had a 4/40 CWS day off	1	-	-	-	-	-	-
2 had a 9/80 CWS day off	1	-	-	-	-	-	-
3 had a 3/36 CWS day off	1	2	-	-	-	-	-
4 drove alone in your car or motorcycle	1	2	3	4	5	6	7
5 carpooled, including carpool w/family	1	2	3	4	5	6	7
6 vanpooled	1	2	3	4	5	6	7
7 rode a bus	1	2	3	4	5	6	7
8 rode a train or subway	1	2	3	4	5	6	7
9 walked	1	2	3	4	5	6	7
10 bicycled	1	2	3	4	5	6	7
11 telecommuted/teleworked (1+ days per week	1	2	3	4	5	6	7
12 telecommuted/teleworked (1-3 days per month)	1	-	-	-	-	-	-
13 did not work/usual day off	1	2	3	4	5	6	7

SECTION 6) SWITCHER TESTS

CALCULATION OF CURRENT WEEKLY VEHICLE TRIPS (CVT)

CVT =
2 X ((NUMBER OF DAYS DRIVING ALONE (Q.S5 OR Q.S5Y, RESPONSE "4")
+ (NUMBER OF DAYS CARPOOLING (Q.S5 OR Q.S5Y, RESPONSE "5") / Q.S5C)
+ (NUMBER OF DAYS VANPOOLING (Q.S5 OR Q.S5Y, RESPONSE "6") / Q.S5D)
- 0.5 X (NUMBER OF 9/80 CWS DAYS OFF (Q.S5 OR Q.S5Y, RESPONSE "2")
- 0.5 X (NUMBER OF TC/TW DAYS 1-3 TIMES PER MONTH (Q.S5 OR Q.S5Y, RESPONSE "12"))

CALCULATION OF PREVIOUS WEEKLY VEHICLE TRIPS (PVT)

IF Q.S10, REPSONSE 14 GE 1, PVT = 8.845 ***(respondents who were not in the Atlanta workforce before 1990 and who used a single alt mode all the time they have worked in Atlanta are assumed to have a past mode corresponding to the average mode split for the region as estimated in the December 2001 regional survey)***

ELSE CALCULATE PVT
PVT =
2 X ((NUMBER OF DAYS DRIVING ALONE (Q.S15, RESPONSE "4")
+ (NUMBER OF DAYS CARPOOLING (Q.S15, RESPONSE "5") / Q.S14 OR Q.S5C)
+ (NUMBER OF DAYS VANPOOLING (Q.S15, RESPONSE "6") / Q.S5D)
- 0.5 X (NUMBER OF 9/80 CWS DAYS OFF (Q.S15, RESPONSE "2")
- 0.5 X (NUMBER OF TC/TW DAYS 1-3 TIMES PER MONTH (Q.S15, RESPONSE "12"))

TESTS FOR SWITCHERS
Has respondent reduced vehicle trips from the past modes/frequency to the current modes/frequency?
IF PVT GT CVT, RESPONDENT IS A SWITCHER, CONTINUE
IF PVT LE CVT, RESPONDENT IS A NON-SWITCHER, THANK AND TERMINATE

SECTION 7) SWITCHER QUESTIONS

ASKED ONLY OF SWITCHERS

1 What influenced your decision to make this change in how you commute? **[DO NOT READ, ALLOW MULITPLE RESPONSES]**

1 Moved my home or changed jobs
2 Concerned about the environment
3 Didn't want to drive, traffic was worse
4 Didn't have access to a car/truck for regular use
5 Wanted to save money
6 Wanted to save time
7 New type of transportation became available
8 New mass transit line became available
9 Parking not easily available at worksite
10 Parking cost too high
11 Received carpool/vanpool/transit subsidy
12 Received other commute service from employer
13 Received commute service from another organization (specify org _____)
14 Saw/heard a radio, TV, or newspaper ad or news story about commute options
15 Other (specify) _____

IF Q.1 NE 12, SKIP TO Q.3

2 What was the commute service you received from your employer **[DO NOT READ, ALLOW MULTIPLE RESPONSES]?**

1 Carpooling/vanpooling information
2 Ridematching service / matchlist
3 Transit information or schedules
4 Guaranteed Ride Home (emergencies or overtime)
5 Preferential parking for carpools/vanpools
6 Discounted transit passes
7 Vanpool/carpool subsidy or cash incentive
8 Prizes or contests for employees who do not drive alone
9 Bicycle racks /other bike services
11 Shuttle bus to MARTA or other location
12 Employer implemented telework policy
13 Other _____

IF Q.1 NE 13, SKIP TO Q.4

3 What was the commute service you received from [name of organization **FROM Q.1] [DO NOT READ, ALLOW MULTIPLE RESPONSES]?**

1 Carpooling/vanpooling information
2 Ridematching service / matchlist
3 Transit information or schedules
4 Guaranteed Ride Home (emergencies or overtime)
5 Preferential parking for carpools/vanpools
6 Discounted transit passes
7 Vanpool/carpool subsidy or cash incentive
8 Prizes or contests for employees who do not drive alone
9 Bicycle racks /other bike services
10 Shuttle bus to MARTA or other location
11 Teleworking information
12 Other _____

IF Q.1 NE 11, 12, OR 13, CONTINUE, OTHERWISE SKIP TO Q.5

4 Was this change influenced by any information or service provided to you by your employer or by an organization that provides commute information or services?

1 yes, information or service influenced change (ASK Q4A)
2 yes, information or service somewhat influenced change (ASK Q4A)
3 no, information or service did not influence change (SKIP TO Q5)
4 didn't receive any services or information (SKIP TO Q5)

4A What was the information or service that influenced your decision? **[DO NOT READ, ALLOW MULTIPLE RESPONSES]**

1 Carpooling/vanpooling information
2 Ridematching service/matchlist
3 Transit information or schedules
4 Guaranteed Ride Home (emergencies or overtime)
5 Preferential parking for carpools/vanpools
6 Discounted transit passes
7 Vanpool/carpool subsidy or cash incentive
8 Prizes or contests for employees who do not drive alone
9 Bicycle racks /other bike services
10 Shuttle bus to MARTA or other location
11 Teleworking information
12 Other _____

IF Q.1 NE 14, SKIP TO Q.6

5 Being as specific as you can, what do you remember about the information you saw for commute options? That is, please describe what was said or shown in the ad for me. **[PROBE:]** What was the message of the ad? **[OPEN ENDED**]

IF Q.S5 OR Q.S5Y NE 5, 6, 7, OR 8, SKIP TO Q.8

6 Now I have just a few more questions about your commute. How do you get to the location where you meet your [carpool, vanpool, bus, or train, **FROM Q.S5 OR Q.S5Y**]? **[IF RESPONDENT USES MORE THAN ONE OF THESE TYPES OF TRANSPORTATION, ASK ABOUT TYPE USED MOST OFTEN]**

1 Drive alone
2 Dropped off/carpool
3 Walk
4 Bicycle
5 Ride a bus
6 Always picked up at home
7 Always carpool/vanpool driver (leave from home)
8 Other (specify) _____

7 How far do you travel to this location?

1 _ mile or less
2 _ mile
3 _ mile
4 1 mile
5 More than 1 mile (specify) _____ miles

8 How many total miles do you commute from home to your usual work location, one-way? (We are looking for the number of miles from your home to your work location.)
_____ miles

9 How many minutes does it take you to make this trip?
_____ minutes

DEMOGRAPHICS – ASKED OF SWITCHERS

10 Finally, I have just a few more questions for background information only. Do you have a car available to you on a regular basis for your travel to work?

1 Yes
2 No
3 Available sometimes
4 Not sure (VOLUNTEERED)
5 Refused (VOLUNTEERED)

11 Please stop me when I reach the group that includes your age. Are you . . . (READ CHOICES)

1 18 – 24
2 25 – 29
3 30 – 34
4 35 – 39
5 40 – 44
6 45 – 49
7 50 - 54
8 55 - 59
9 60 - 64
10 65 - 69
11 70 - 74
12 75 and older
13 Refused **(DO NOT READ)**

12 Which of the following best describes your occupation?

1 Professional
2 Company manager, official, or business owner
3 IT or technical
4 Clerical/Sales
5 Service industry worker
6 Operator/Laborer/Manufacturing
7 Craftsman/Foreman
8 Farming/Ranching/Agriculture
9 Other (SPECIFY) _____
10 Don't know/Refused **[DO NOT READ]**

13 Which of the following best describes your employer? **[ROTATE AND READ]**

1 My employer is a private or non-government organization **(SKIP TO Q14)**
2 My employer is a local, state or federal government organization **(ASK Q.13A)**
3 Other (SPECIFY) _____ **(DO NOT READ, SKIP TO Q.14)**

13A Do you work for a . . . (READ CHOICES; ONE ANSWER ONLY)
1 Local government
2 State government
3 Federal government
4 Other **[DO NOT READ]** _____
5 Don't know/Refused **[DO NOT READ]**

14 What is your total annual family income? Please stop me when I reach the group that includes your income. **(READ CATEGORIES)**

1 UNDER $10,000
2 $10,000 BUT LESS THAN $20,000
3 $20,000 BUT LESS THAN $30,000
4 $30,000 BUT LESS THAN $40,000
5 $40,000 BUT LESS THAN $50,000
6 $50,000 BUT LESS THAN $60,000
7 $60,000 BUT LESS THAN $70,000
8 $70,000 BUT LESS THAN $80,000
9 $80,000 BUT LESS THAN $90,000
10 $90,000 BUT LESS THAN $100,000
11 $100,000 OR MORE
12 REFUSED **(DO NOT READ)**

15 What is your MAIN ethnic or racial heritage? **(READ CATEGORIES -- ACCEPT ONE RESPONSE ONLY) [IF THEY GIVE MORE THAN ONE ANSWER, ASK THEM WHICH ONE THEY ASSOCIATE WITH MOST]**

1 African American / Black American
2 American Indian / Native American
3 Asian American / Pacific Islander
4 Caucasian / White

5 Hispanic American / Latino
6 Mixed (DO NOT READ)
7 Other **(SPECIFY) (DO NOT READ)**_____
8 Refused **(DO NOT READ)**

16 Those are all my questions. May I have your first name in case my supervisor needs to call you back to verify my work? _____

THANK YOU FOR YOUR TIME!

APPENDIX A-2 – PROGRAM IMPACT MEASURES DETAILED DESCRIPTION

PROGRAM IMPACT MEASURES DETAILED DESCRIPTION

SUMMARY OF FOUR KEY IMPACT MEASURES

The travel and emission reductions estimates are based on the following four impact measures:

- Placement Rates and Placements – Proportion and number of commuters who made a mode switch, frequency switch, or occupancy switch during the evaluation period
- Vehicle Trip (VT) Reduction – Number of vehicles removed from the road daily by commuters who made a mode switch, frequency switch, or occupancy switch during the evaluation period
- Vehicle Miles of Travel (VMT) Reduction – Number of miles of travel removed from the road daily by commuters who made a mode switch, frequency switch, or occupancy switch during the evaluation period
- Emission Reductions – Daily reductions in emissions of ozone precursors (VOC) and NO_x expressed in terms of tons per day reduced

DETAILED DESCRIPTION

Placement Rate and Placements

Commute program surveys frequently estimate placement rate as a measure of change. Typically it is calculated by surveying a pre-determined number of randomly-selected respondents, determining the number of these respondents who made appropriate travel changes, and dividing the number of change respondents into the total number of surveyed respondents.

The measurement team calculated a placement rate for the regional switcher survey in the same way, except with the regional switcher survey it was the switcher population that was known in advance, with the total number of survey respondents determined from the survey. As reported in Section 2 of the report, interviewers conducted interviews with 400 switchers from a randomly–drawn sample of the population at large. To estimate placement rate, the measurement team divided the 400 switchers by the total number of respondents who were called in the process of obtaining interviews with 400 switchers (total sample population). The total number of respondents who were called in the process of obtaining the interviews with 400 switchers is the total number of surveyed respondents. .

The table below presents how the measurement team derived the total number of survey respondents and calculating the overall alternative mode placement rate for Method 1, All Regional Switcher Method.

PLACEMENT CALCULATION – ALL REGIONAL SWITCHERS (METHOD 1)

Interview status	Frequency
Switchers	400
Qualified households, couldn't reach worker	308
Qualified respondent, self-terminate	153
Non-switchers	1,746
TOTAL Qualified Respondents	2,607
Placement rate = 400 switchers/2,607total	**15.3%**

In obtaining 400 switchers, interviewers attempted or conducted surveys with some respondents who were qualified to participate but could not be identified as switchers, for one reason or another. First, interviewers attempted 308 interviews with households in which the qualified worker could not be reached. Next, interview initiated 153 interviews with qualified respondents who terminated the interviews before completing all the questions. Finally, 1,746 respondents who were qualified to participate and completed the interview were determined to be non-switchers. These respondent counts totaled to 2,607 respondents who could potentially have been switchers. Dividing 400 switchers by 2,607 respondents yields a placement rate of 15.3% for the All Regional Switcher Method (Method 1).

The measurement team estimated the number of switchers by multiply the sample placement rate by the total number of qualified workers in the region. As reported by the 2000 census, the 13-county Atlanta metropolitan region survey area had 2,010,975 workers who met the criteria used in the survey as qualifiers. Using the All Regional Switcher Method (Method 1) as an example, this calculation resulted in a total of 308,550 placements.

VTR Factor and Vehicle Trips Reduced

The next program impact measure involves calculating the number of vehicle trips reduced by the placements. For the regional switcher survey, the measurement team identified switchers (or placements) by a comparison of their individual Current Weekly Vehicle Trips (CVT) and Previous Weekly Vehicle Trips (PVT), calculated from their current and previous travel grids. The difference between these two counts was the number of weekly vehicle trips the respondent reduced.

Adding the individual CVT for each respondent and the individual PVT for each respondent and then subtracting them, provides an estimate of the total weekly vehicle trips reduced. Dividing the total weekly vehicle trips reduced by the total switcher sample provides an estimate of the trips reduced by an "average" switcher. Finally, since the analysis assesses impacts in terms of daily reductions, the weekly trip reduction must be divided by the number of days the respondent worked to obtain a measure of the daily reduction in vehicle trips. This number is referred to as the "vehicle trip reduction (VTR) factor."

Again, using Method 1 (All Regional Switchers Method), the sample of switchers had a collective CVT of 2,119; in other words switchers currently made 2,119 weekly vehicle trips. Previously, this group made 3,794 weekly vehicle trips (PVT). The difference between these two counts is 1,675. This is the number of weekly trips reduced by all switchers together. Dividing by 400 results in an average of 4.19 weekly vehicle trips reduced per switcher. The VTR factor is calculated by dividing the 4.19 weekly trips reduced per switcher by the number of workdays per week. The resulting VTR factor is 0.84 daily vehicle trips reduced per switcher.

Multiply the VTR factor (0.84) by the total number of regional switchers (308,550) resulted in 258,318 total daily vehicle trips reduced.

VMT Reduced

The third step in the calculation of impacts involves estimating the vehicle miles traveled (VMT) reduced by the switcher sample. VMT reductions are calculated by multiplying the number of vehicle trips reduced by the average commute distance for switchers, as calculated from individual one-way commute distances defined for each switcher.

Switchers commuted, on average, 19.7 miles one-way. Using the Method 1 example above, multiplying the average travel distance by the 258,318 daily vehicle trips resulted in a total daily VMT reduction of 5,088,867 miles.

Emissions Reduced

Lastly, the calculation of air quality emissions benefits, defined as pounds of pollutants reduced, was performed with a simplified method using regional emission factors provided by the Georgia Department of Natural Resources, Environmental Protection Division. Two factors were used, one for each of the two pollutants that are of special interest: oxides of Nitrogen – NO_x and Volatile Organic Compounds (VOC). These pollutants are of special interest because they are the primary components in the formation of ozone; thirteen counties in the metropolitan Atlanta region do not meet federal air quality standards for ozone.

For 2002, the emission factors are:

NO_x	=	1.113 grams per vehicle mile reduced
VOC	=	1.228 grams per vehicle mile reduced

These factors represent the grams of emissions produced per mile of travel.

The VMT must be adjusted to account for the length of drive alone trips to rideshare and transit meeting points, prior to calculating emissions reductions. The emissions factors, when multiplied by the vehicle miles reduced, provide the air quality emission reductions for the region.

Continuing with Scenario 1, 19% of all regional switchers said they made a drive alone trip to a meeting point and traveled an average of 7.2 miles one way. This resulted in 353,379 drive alone vehicle miles, which must be subtracted from the total VMT, for an adjusted total of 4,735,488 VMT.

The resulting emissions reductions equals:

- NOx 6.00 tons per day reduced
- VOC 6.95 tons per day reduced

APPENDIX A-3 – DETAILED TRAVEL AND CALCULATION SPREADSHEETS FOR EACH METHOD

Comparison of Switcher Impacts Under Various Conditions - Summary

12-Year Evaluation Period			
	Method 1	**Method 3 -12 Year**	**Method 4 -12 Year**
Regional switcher placements	308,550	308,550	60,939
Daily vehicle trips (reduced)	(258,318)	(227,721)	(42,027)
Daily VMT reduced	(5,088,867)	(4,486,099)	(907,355)
Daily NOx emissions reduced (tons per day)	(6.00)	(5.29)	(1.04)
Daily VOC emissions reduced (tons per day)	(6.95)	(6.13)	(1.21)

5-Year Evaluation Period			
	Method 2 - 5 Year	**Method 3 - 5 Year**	**Method 4 - 5 Year**
Regional switcher placements	269,981	269,981	50,139
Daily vehicle trips (reduced)	(227,713)	(207,402)	(35,779)
Daily VMT reduced	(4,510,995)	(4,108,628)	(819,693)
Daily NOx emissions reduced (tons per day)	(5.45)	(4.97)	(0.93)
Daily VOC emissions reduced (tons per day)	(6.32)	(5.75)	(1.08)

2- Year Evaluation Period			
	Method 2 - 2 Year	**Method 3 - 2 Year**	**Method 4 - 2 Year**
Regional switcher placements	205,186	205,186	37,026
Daily vehicle trips (reduced) or increased	(176,341)	(159,525)	(28,502)
Daily VMT reduced	(3,539,159)	(3,201,663)	(633,031)
Daily NOx emissions reduced (tons per day)	(4.25)	(3.85)	(0.71)
Daily VOC emissions reduced (tons per day)	(4.92)	(4.46)	(0.82)

Calculation of Regional Trip, VMT, and Emission Reduction

12 Year Switchers - Method 1

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Switchers	400	
Non-switchers	1,746	
Qual HH-couldn't reach worker	308	
Qual HH-self-terminate	153	
Total respondents	2,607	
Placement rate (switchers/total resp)	15.3%	
Placements (Pl rate x Total workers)		308,550
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	9.48	
Current weekly VehTrips	5.30	
Wkly VehTrips reduced/placement	4.19	
Daily VehTrips reduced/placement	0.84	
VTR factor	(0.84)	
Number of daily trips reduced		(258,318)
VMT Reduction Calculation		
Average OW switcher trip length	19.7	
VMT reduced		(5,088,867)
Ajustment for DA Access		
% DA to RS modes	19.0%	
Ave DA access distance (miles)	7.2	
Net DA access mileage	(353,379)	
Ajusted VMT w/o DA access		(4,735,488)
Emission Reduction Calculation		
NOx emission factor - 2002 (gm/mile)	1.15	
VOC emission factor - 2002 (gm/mile)	1.332	
Emissions reduced		
NOx (gm/day)	(5,445,811)	
NOx (tons/day)		(6.00)
VOC (gm/day)	(6,307,669)	
VOC (tons/day)		(6.95)

Calculation of Regional Trip, VMT, and Emission Reduction

2 Year Switchers - Method 2

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Switchers (within 24 months)	266	
Total respondents	2,607	
Placement rate (switchers/total resp)	10.2%	
Placements (Pl rate x Total workers)		205,186
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	9.40	
Current weekly VehTrips	5.11	
Wkly VehTrips reduced/placement	4.30	
Daily VehTrips reduced/placement	0.86	
VTR factor	(0.86)	
Number of daily trips reduced		(176,341)
VMT Reduction Calculation		
Average OW switcher trip length	20.07	
VMT reduced		(3,539,159)
Ajustment for DA Access		
% DA to RS modes	23.0%	
Ave DA access distance (miles)	4.67	
Net DA access mileage	(189,408)	
Ajusted VMT w/o DA access		(3,349,752)
Emission Reduction Calculation		
NOx emission factor - 2001 (gm/mile)	1.15	
VOC emission factor - 2001 (gm/mile)	1.332	
Emissions reduced		
NOx (gm/day)	(3,852,214)	
NOx (tons/day)		(4.25)
VOC (gm/day)	(4,461,869)	
VOC (tons/day)		(4.92)

Calculation of Regional Trip, VMT, and Emission Reduction

5 Year Switchers - Method 2

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Switchers (within 24 months)	350	
Total respondents	2,607	
Placement rate (switchers/total resp)	13.4%	
Placements (Pl rate x Total workers)		269,981
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	9.51	
Current weekly VehTrips	5.29	
Wkly VehTrips reduced/placement	4.22	
Daily VehTrips reduced/placement	0.84	
VTR factor	(0.84)	
Number of daily trips reduced		(227,713)
VMT Reduction Calculation		
Average OW switcher trip length	19.81	
VMT reduced		(4,510,995)
Ajustment for DA Access		
% DA to RS modes	20.0%	
Ave DA access distance (miles)	4.5989	
Net DA access mileage	(209,446)	
Ajusted VMT w/o DA access		(4,301,549)
Emission Reduction Calculation		
NOx emission factor - 2001 (gm/mile)	1.15	
VOC emission factor - 2001 (gm/mile)	1.332	
Emissions reduced		
NOx (gm/day)	(4,946,782)	
NOx (tons/day)		(5.45)
VOC (gm/day)	(5,729,664)	
VOC (tons/day)		(6.32)

Calculation of Regional Trip, VMT, and Emission Reduction

5 Year Switchers, Discounting for High to Low Switchers - Method 3

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Switchers (within 24 months)	350	
Total respondents	2,607	
Placement rate (switchers/total resp)	13.4%	
Placements (Pl rate x Total workers)		269,981
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	9.51	
Current weekly VehTrips	5.29	
Wkly VehTrips reduced/placement	4.22	
Daily VehTrips reduced/placement	0.84	
VTR factor	(0.84)	
Daily trips reduced-switchers		(227,713)
Daily trips reduced-High to low occ. switchers		20,311
Net daily trips reduced		(207,402)
VMT Reduction Calculation		
Average OW switcher trip length	19.81	
VMT reduced		(4,108,628)
Ajustment for DA Access		
% DA to RS modes	20.0%	
Ave DA access distance (miles)	4.5989	
Net DA access mileage	(190,764)	
Ajusted VMT w/o DA access		(3,917,864)
Emission Reduction Calculation		
NOx emission factor - 2001 (gm/mile)	1.15	
VOC emission factor - 2001 (gm/mile)	1.332	
Emissions reduced		
NOx (gm/day)	(4,505,544)	
NOx (tons/day)		(4.97)
VOC (gm/day)	(5,218,595)	
VOC (tons/day)		(5.75)

Calculation of Regional Trip, VMT, and Emission Reduction

12 Year Switchers, Discounting for High to Low Switchers - Method 3

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Switchers	400	
Non-switchers	1,746	
Qual HH-couldn't reach worker	308	
Qual HH-self-terminate	153	
Total respondents	2,607	
Placement rate (switchers/total resp)	15.3%	
Placements (Pl rate x Total workers)		308,550
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	9.48	
Current weekly VehTrips	5.30	
Wkly VehTrips reduced/placement	4.19	
Daily VehTrips reduced/placement	0.84	
VTR factor	(0.84)	
Daily trips reduced-switchers		(258,318)
Daily trips reduced-High to low occ. switchers		30,597
Net daily trips reduced		(227,721)
VMT Reduction Calculation		
Average OW switcher trip length	19.7	
VMT reduced		(4,486,099)
Ajustment for DA Access		
% DA to RS modes	19.0%	
Ave DA access distance (miles)	7.2	
Net DA access mileage	(311,522)	
Ajusted VMT w/o DA access		(4,174,577)
Emission Reduction Calculation		
NOx emission factor - 2002 (gm/mile)	1.15	
VOC emission factor - 2002 (gm/mile)	1.332	
Emissions reduced		
NOx (gm/day)	(4,800,763)	
NOx (tons/day)		(5.29)
VOC (gm/day)	(5,560,536)	
VOC (tons/day)		(6.13)

Calculation of Regional Trip, VMT, and Emission Reduction

2 Year Switchers, Influenced switchers and discounting for high to low occupancy switchers - Method 4

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Switchers (influenced)	48	
Total respondents	2,607	
Placement rate (switchers/total resp)	1.8%	
Placements (Pl rate x Total workers)		37,026
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	9.37	
Current weekly VehTrips	5.11	
Wkly VehTrips reduced/placement	4.26	
Daily VehTrips reduced/placement	0.85	
VTR factor	(0.85)	
Number of daily trips reduced		(31,537)
Daily trips increased-High to low occ. switchers		3,034
Net daily trips reduced		(28,502)
VMT Reduction Calculation		
Average OW switcher trip length	22.21	
VMT reduced		(633,031)
Ajustment for DA Access		
% DA to RS modes	53.8%	
Ave DA access distance (miles)	4.93	
Net DA access mileage	(75,544)	
Ajusted VMT w/o DA access		(557,487)
Emission Reduction Calculation		
NOx emission factor - 2001 (gm/mile)	1.15	
VOC emission factor - 2001 (gm/mile)	1.332	
Emissions reduced		
NOx (gm/day)	(641,111)	
NOx (tons/day)		(0.71)
VOC (gm/day)	(742,573)	
VOC (tons/day)		(0.82)

Calculation of Regional Trip, VMT, and Emission Reduction

5 Year Switchers, Influence Switchers and discounting for negative impact - Method 4

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Switchers (influenced)	65	
Total respondents	2,607	
Placement rate (switchers/total resp)	2.5%	
Placements (Pl rate x Total workers)		50,139
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	9.57	
Current weekly VehTrips	5.62	
Wkly VehTrips reduced/placement	3.94	
Daily VehTrips reduced/placement	0.79	
VTR factor	(0.79)	
Number of daily trips reduced		(39,551)
Daily trips increased-High to low occ. switchers		3,772
Net daily trips reduced		(35,779)
VMT Reduction Calculation		
Average OW switcher trip length	22.91	
VMT reduced		(819,693)
Ajustment for DA Access		
% DA to RS modes	50.0%	
Ave DA access distance (miles)	4.7639	
Net DA access mileage	(85,223)	
Ajusted VMT w/o DA access		(734,470)
Emission Reduction Calculation		
NOx emission factor - 2001 (gm/mile)	1.15	
VOC emission factor - 2001 (gm/mile)	1.332	
Emissions reduced		
NOx (gm/day)	(844,641)	
NOx (tons/day)		(0.93)
VOC (gm/day)	(978,314)	
VOC (tons/day)		(1.08)

Calculation of Regional Trip, VMT, and Emission Reduction

12 Year Switchers, Influence Switchers and discounting for negative impact - Method 4

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Switchers (influenced)	79	
Total respondents	2,607	
Placement rate (switchers/total resp)	3.0%	
Placements (Pl rate x Total workers)		60,939
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	9.57	
Current weekly VehTrips	5.62	
Wkly VehTrips reduced/placement	3.94	
Daily VehTrips reduced/placement	0.79	
VTR factor	(0.79)	
Number of daily trips reduced		(48,070)
Daily trips increased-High to low occ. switchers		6,043
Net daily trips reduced		(42,027)
VMT Reduction Calculation		
Average OW switcher trip length	21.59	
VMT reduced		(907,355)
Ajustment for DA Access		
% DA to RS modes	45.7%	
Ave DA access distance (miles)	4.3587	
Net DA access mileage	(83,714)	
Ajusted VMT w/o DA access		(823,641)
Emission Reduction Calculation		
NOx emission factor - 2001 (gm/mile)	1.15	
VOC emission factor - 2001 (gm/mile)	1.332	
Emissions reduced		
NOx (gm/day)	(947,187)	
NOx (tons/day)		(1.04)
VOC (gm/day)	(1,097,090)	
VOC (tons/day)		(1.21)

Calculation of Regional Trip, VMT, and Emission Reduction

12 year, Higher-Lower Occupany Switchers

Total workers in region - 2000		2,010,975	
Placement calculation			
Survey respondent breakdown			
Alt Mode Users, Higher-Lower Occupancy Switchers		220	
Total respondents		2,607	
Placement rate (switchers/total resp)		8.4%	
Placements (Pl rate x Total workers)			169,703
Vehicle Trip Reduction Calculation			
Previous weekly VehTrips		3.56	
Current weekly VehTrips		4.46	
Wkly VehTrips reduced/placement		(0.90)	
Daily VehTrips reduced/placement		(0.18)	
VTR factor		0.18	
Number of daily trips increased			30,597
VMT Reduction Calculation			
Average OW switcher trip length	NA		
VMT reduced			NA
Ajustment for DA Access			
% DA to RS modes	NA		
Ave DA access distance (miles)	NA		
Net DA access mileage	NA		
Ajusted VMT w/o DA access			NA
Emission Reduction Calculation			
NOx emission factor - 2001 (gm/mile)	NA		
VOC emission factor - 2001 (gm/mile)	NA		
Emissions reduced			
NOx (gm/day)	NA		
NOx (tons/day)			NA
VOC (gm/day)	NA		
VOC (tons/day)			NA

Calculation of Regional Trip, VMT, and Emission Reduction

12 year, Influence Switchers and discounting for negative impact

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Switchers (influenced)	79	
Total respondents	2,607	
Placement rate (switchers/total resp)	3.0%	
Placements (Pl rate x Total workers)		60,939
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	9.57	
Current weekly VehTrips	5.62	
Wkly VehTrips reduced/placement	3.94	
Daily VehTrips reduced/placement	0.79	
VTR factor	(0.79)	
Number of daily trips reduced		(48,070)
VMT Reduction Calculation		
Average OW switcher trip length	21.59	
VMT reduced		(1,037,823)
Ajustment for DA Access		
% DA to RS modes	45.7%	
Ave DA access distance (miles)	4.3587	
Net DA access mileage	(95,751)	
Ajusted VMT w/o DA access		(942,072)
Emission Reduction Calculation		
NOx emission factor - 2001 (gm/mile)	1.15	
VOC emission factor - 2001 (gm/mile)	1.332	
Emissions reduced		
NOx (gm/day)	(1,083,383)	
NOx (tons/day)		(1.19)
VOC (gm/day)	(1,254,840)	
VOC (tons/day)		(1.38)

Calculation of Regional Trip, VMT, and Emission Reduction

5 year, Higher-Lower Occupany Switchers

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Alt Mode Users, Higher-Lower Occupancy Switchers	149	
Total respondents	2,607	
Placement rate (switchers/total resp)	5.7%	
Placements (Pl rate x Total workers)		114,935
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	3.68	
Current weekly VehTrips	4.57	
Wkly VehTrips reduced/placement	(0.88)	
Daily VehTrips reduced/placement	(0.18)	
VTR factor	0.18	
Number of daily trips increased		20,311
VMT Reduction Calculation		
Average OW switcher trip length	NA	
VMT reduced		NA
Ajustment for DA Access		
% DA to RS modes	NA	
Ave DA access distance (miles)	NA	
Net DA access mileage	NA	
Ajusted VMT w/o DA access		NA
Emission Reduction Calculation		
NOx emission factor - 2001 (gm/mile)	NA	
VOC emission factor - 2001 (gm/mile)	NA	
Emissions reduced		
NOx (gm/day)	NA	
NOx (tons/day)		NA
VOC (gm/day)	NA	
VOC (tons/day)		NA

Calculation of Regional Trip, VMT, and Emission Reduction

5 year, Influence Switchers and discounting for negative impact

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Switchers (influenced)	65	
Total respondents	2,607	
Placement rate (switchers/total resp)	2.5%	
Placements (Pl rate x Total workers)		50,139
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	9.56	
Current weekly VehTrips	5.61	
Wkly VehTrips reduced/placement	3.96	
Daily VehTrips reduced/placement	0.79	
VTR factor	(0.79)	
Number of daily trips reduced		(39,661)
VMT Reduction Calculation		
Average OW switcher trip length	22.91	
VMT reduced		(908,639)
Ajustment for DA Access		
% DA to RS modes	50.0%	
Ave DA access distance (miles)	4.7639	
Net DA access mileage	(94,471)	
Ajusted VMT w/o DA access		(814,168)
Emission Reduction Calculation		
NOx emission factor - 2001 (gm/mile)	1.15	
VOC emission factor - 2001 (gm/mile)	1.332	
Emissions reduced		
NOx (gm/day)	(936,293)	
NOx (tons/day)		(1.03)
VOC (gm/day)	(1,084,472)	
VOC (tons/day)		(1.20)

Calculation of Regional Trip, VMT, and Emission Reduction

2 year, Higher-Lower Occupany Switchers

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Alt Mode Users, Higher-Lower Occupancy Switchers	100	
Total respondents	2,607	
Placement rate (switchers/total resp)	3.8%	
Placements (Pl rate x Total workers)		77,138
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	3.10	
Current weekly VehTrips	4.19	
Wkly VehTrips reduced/placement	(1.09)	
Daily VehTrips reduced/placement	(0.22)	
VTR factor	0.22	
Number of daily trips increased		16,816
VMT Reduction Calculation		
Average OW switcher trip length	NA	
VMT reduced		NA
Ajustment for DA Access		
% DA to RS modes	NA	
Ave DA access distance (miles)	NA	
Net DA access mileage	NA	
Ajusted VMT w/o DA access		NA
Emission Reduction Calculation		
NOx emission factor - 2001 (gm/mile)	NA	
VOC emission factor - 2001 (gm/mile)	NA	
Emissions reduced		
NOx (gm/day)	NA	
NOx (tons/day)		NA
VOC (gm/day)	NA	
VOC (tons/day)		NA

Calculation of Regional Trip, VMT, and Emission Reduction

2 year, influenced switchers and discounting for high to low occupancy switchers

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Switchers (influenced)	48	
Total respondents	2,607	
Placement rate (switchers/total resp)	1.8%	
Placements (Pl rate x Total workers)		37,026
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	9.37	
Current weekly VehTrips	5.11	
Wkly VehTrips reduced/placement	4.26	
Daily VehTrips reduced/placement	0.85	
VTR factor	(0.85)	
Number of daily trips reduced		(31,537)
VMT Reduction Calculation		
Average OW switcher trip length	22.21	
VMT reduced		(700,426)
Ajustment for DA Access		
% DA to RS modes	53.8%	
Ave DA access distance (miles)	4.9265	
Net DA access mileage	(83,586)	
Ajusted VMT w/o DA access		(616,840)
Emission Reduction Calculation		
NOx emission factor - 2001 (gm/mile)	1.15	
VOC emission factor - 2001 (gm/mile)	1.332	
Emissions reduced		
NOx (gm/day)	(709,366)	
NOx (tons/day)		(0.78)
VOC (gm/day)	(821,631)	
VOC (tons/day)		(0.91)

Calculation of Regional Trip, VMT, and Emission Reduction

2 Year Switchers, Discounting for High to Low Switchers - Method 3

Total workers in region - 2000	2,010,975	
Placement calculation		
Survey respondent breakdown		
Switchers (within 24 months)	266	
Total respondents	2,607	
Placement rate (switchers/total resp)	10.2%	
Placements (Pl rate x Total workers)		205,186
Vehicle Trip Reduction Calculation		
Previous weekly VehTrips	9.40	
Current weekly VehTrips	5.11	
Wkly VehTrips reduced/placement	4.30	
Daily VehTrips reduced/placement	0.86	
VTR factor	(0.86)	
Number of daily trips reduced		(176,341)
Daily trips reduced-High to low occ. switchers		16,816
Net daily trips reduced		(159,525)
VMT Reduction Calculation		
Average OW switcher trip length	20.07	
VMT reduced		(3,201,663)
Ajustment for DA Access		
% DA to RS modes	21.7%	
Ave DA access distance (miles)	4.67	
Net DA access mileage	(161,661)	
Ajusted VMT w/o DA access		(3,040,002)
Emission Reduction Calculation		
NOx emission factor - 2001 (gm/mile)	1.15	
VOC emission factor - 2001 (gm/mile)	1.332	
Emissions reduced		
NOx (gm/day)	(3,496,002)	
NOx (tons/day)		(3.85)
VOC (gm/day)	(4,049,282)	
VOC (tons/day)		(4.46)

APPENDIX B – DECEMBER 2002 REGIONAL TRANSPORTATION SURVEY FINAL REPORT

EVALUATION OF THE EFFECTIVENESS OF PROGRAMS CONTAINED IN THE "FRAMEWORK FOR COOPERATION TO REDUCE TRAFFIC CONGESTION AND IMPROVE AIR QUALITY"

PHASE THREE

DECEMBER 2002 REGIONAL TRANSPORTATION SURVEY FINAL REPORT

PREPARED FOR:
GEORGIA DEPARTMENT OF TRANSPORTATION

PREPARED BY:
CENTER FOR TRANSPORTATION AND THE ENVIRONMENT

IN ASSOCIATION WITH
WIRTHLIN WORLDWIDE

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EXECUTIVE SUMMARY

INTRODUCTION

This report presents the results of a regional transportation survey of randomly selected residents in the Atlanta 13-county nonattainment area[1]. The survey, conducted in December 2002, assesses general trends in awareness, attitudes, and use of alternative forms of transportation for commuting among residents in the 13-county area. Survey respondents were asked about their awareness and attitudes regarding recent transportation and air quality advertising activities and about their awareness, interaction, and contact with regional and employer-sponsored programs and services available to help with their commute to and from work.

The survey is part of a broad research and measurement program sponsored by the Georgia Department of Transportation (GDOT) known as the "Evaluation of the Effectiveness of Programs contained in the Framework for Cooperation to Reduce Traffic Congestion and Improve Air Quality." It is the sixth regional transportation survey conducted on behalf of the GDOT over the past three year of the research and measurement program.

The research and measurement program evaluates the effectiveness of programs aimed at changing individual and employer behavior about the voluntary use of alternative transportation to help reduce traffic congestion and improve air quality in the metropolitan Atlanta region. The programs are referred to as the Atlanta TDM Framework and include organizations such as The Clean Air Campaign, Transportation Management Associations, and the Atlanta Regional Commission.

CONCLUSIONS

The ultimate goal of the Atlanta TDM Framework is to encourage commuters who are driving alone to work to shift to alternative transportation modes and to encourage commuters who currently use alternative modes to continue to do so. Before this can happen, commuters must be aware of the problems associated with driving alone and the programs and services available to help them with their commute. A brief summary of the survey findings for the December 2002 regional transportation survey is presented below.

Metro Atlanta residents are aware the region is experiencing problems with traffic congestion and air quality and recall seeing, reading, or hearing information related to these issues. Metro Atlanta residents also show moderate to strong recall on information about specific commute alternatives and commute assistance programs. The majority of metro Atlanta residents cannot recall the sponsor of the information they saw, read, or heard. However, The Clean Air Campaign and the Department of Transportation were the most prevalent responses for those who could recall the information.

Metro Atlanta residents show continued awareness, near 50% or more, for several regional services available to help commuters, including the 1-877-CLEANAIR and 1-87-RIDEFIND information lines. Residents who work in more urbanized areas of the region show the greatest awareness of regional services.

Metro Atlanta residents also show strong awareness of The Clean Air Campaign organization. Nearly half associate The Clean Air Campaign with some form of alternative transportation activity, a slight increase from the previous year. Residents continue to describe carpool encouragement and carpool matching services as primary functions of The Clean Air Campaign.

[1] Thirteen (13) county nonattainment area includes Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Paulding, and Rockdale counties.

Atlanta residents consider traffic congestion and air quality serious quality of life issues. About half of the metro Atlanta residents who said their employer offered employer-sponsored commute assistance programs gave employer-sponsored programs a ranking of extremely valuable or very valuable. The majority of metro Atlanta residents who have been in contact with The Clean Air Campaign organization gave it an extremely valuable or somewhat valuable ranking.

Contact and actual use of regional services among metro Atlanta residents is most notable for services related to transit use and services provided by information specialists at the region-wide information phone lines (1-877-CLEANAIR and 1-87-RIDEFIND) and at The Clean Air Campaign website (www.cleanaircampaign.com).

More metro Atlanta residents had access to worksite commute assistance programs in 2002 than in 2001. Availability of commute assistance programs was more common for residents working in more urbanized areas. These residents have lower drive alone rates and are more likely to try commute alternatives than employees who said they did not have access to services provided by their employer.

The percentage of metro Atlanta residents noting availability of specific employer-sponsored programs did not increase substantially over the fiscal year; the only significant increase was employer-sponsored carpool subsidies. One-in-three metro Atlanta residents who said their employer offers commute assistance services used at least one service during the year.

RECOMMENDATIONS

As mentioned previously, the ultimate goal of the Atlanta TDM Framework is to encourage commuters who are driving alone to work to shift to alternative transportation modes and to encourage commuters who currently use alternative modes to continue to do so. The conclusions above indicate that metro Atlanta residents are aware of the problems and, to some degree, the regional services available to assist them. And, although limited, metro Atlanta residents who are ware of the regional services are contacting and using them for commute assistance. The measurement team offers the following recommendations to help increase the level of awareness, contact, and use of commute assistance programs in the future:

- *Encourage Employers and Property Managers to Implement More Enhanced Commute Assistance Programs (e.g., financial incentives)*
- *Target Urbanized Areas*
- *Focus Outreach on Employers and Property Managers*

SECTION 1 OVERVIEW

PURPOSE OF THE REPORT

The purpose of this report is to present the results of a regional transportation survey of randomly selected residents in the Atlanta 13-county non-attainment area. The survey is part of a broad research and measurement program sponsored by the Georgia Department of Transportation (GDOT) known as the "Evaluation of the Effectiveness of Programs contained in the Framework for Cooperation to Reduce Traffic Congestion and Improve Air Quality." It is the sixth regional transportation conducted on behalf of the GDOT over the past three year of the research and measurement program.

The research and measurement program evaluates the effectiveness of programs aimed at changing individual and employer behavior about the voluntary use of alternative transportation to help reduce traffic congestion and improve air quality in the metropolitan Atlanta region. The programs are referred to as the Atlanta TDM Framework and include organizations such as The Clean Air Campaign, Transportation Management Associations, and the Atlanta Regional Commission.

The survey, conducted in December 2002, assesses general trends in awareness, attitudes, and use of alternative forms of transportation for commuting among residents in the 13-county area. Survey respondents were asked about their awareness and attitudes regarding recent transportation and air quality advertising activities and about their awareness, interaction, and contact with regional and employer-sponsored programs and services available to help with their commute to and from work.

ORGANIZATION OF REPORT

The report is divided into 4 sections.

- Section 1 – Purpose and organization of the report
- Section 2 – Description of data collection and methodology
- Section 3 – Description of survey results
- Section 4 – Conclusion and recommendations

This report also includes an appendix with the final survey instrument.

SECTION 2 DATA COLLECTION

This section briefly describes the regional transportation survey methodology.

QUESTIONNAIRE DEVELOPMENT

The measurement team developed the survey questionnaire with input from partners of the Atlanta TDM Framework (Framework partners) and conducted the survey by telephone using a Computer Assisted Telephone Interviewing System (CATI). While based on previous regional transportation surveys, the measurement team made significant changes to the survey, at the request of Framework partners, to gauge influence or motivating factors for discontinued or infrequent use of alternative modes.

SAMPLE PREPARATION

Approximately 1,500 residents in the 13-county non-attainment area participated in the December 2002 regional transportation survey. The measurement team stratified and weighted the sample to ensure representation of the region and set minimum sampling quotas by pre-determined geographic employment areas. The employment areas, shown in Table 1, closely follow designated employer outreach service areas or territories in the 13-county non-attainment area for Transportation Management Associations and The Clean Air Campaign. The margin of error for the survey is +/- 2.5% in 95 out of 100 cases (95% confidence level).

TABLE 1: RESPONDENT SAMPLE QUOTAS BY EMPLOYMENT AREA

December 2002	Respondent Employment Area
8%	BUCKHEAD (Includes Buckhead, Lenox, and Phipps
10%	CUMBERLAND (Includes Cumberland, Galleria, and Vinings)
7%	TOWN CENTER (Includes Town Center and Kennesaw
11%	AIRPORT (Includes Hartsfield)
11%	PERIMETER (Includes Perimeter, Dunwoody, Sandy Springs, and Brookhaven)
8%	DECATUR (Includes Clifton, Emory, Decatur, Druid Hills, and Virginia Highlands)
9%	MIDTOWN (Includes Midtown, Georgia Tech, and Colony Square)
9%	DOWNTOWN (Includes Downtown, CNN Center, Federal/State Office Buildings, Georgia State University, The Capitol, 5 Points, Underground, and Peachtree Center)
7%	NORTH FULTON/400 CORRIDOR (Includes Roswell, Alpharetta, Crabapple, and Mountain Park)
7%	NORCROSS/PEACHTREE INDUSTRIAL/141 (Includes Norcross, Duluth, Berkeley Lake, and Peachtree Corners)
9%	SOUTH ATLANTA (Peachtree City, Newnan, Fayetteville, Fulton Industrial Blvd McDonough, Locust Grove, Hampton, Stockbridge, Jonesboro, Fairburn, and Union City)
5%	Other areas include: Austell, Buford, Cherokee, Cobb, Cumming, Douglas, Douglasville, Doraville, Gwinnett, Lawrenceville, North Atlanta, Northwest Atlanta, Paulding, Stone Mountain, Tucker, and Woodstock (less than 1%).
--	Don't Know/Refused

SURVEY PRE-TEST

The measurement team completed 10 surveys before conducting the full survey. After examining and discussing the results, the measurement team began interviewing the full sample with minimal questionnaire modification.

SURVEY ADMINISTRATION

Wirthlin Worldwide, the survey administrator, conducted the survey from between December 9 and December 21, 2002.

SECTION 3 SURVEY RESULTS

INTRODUCTION

As mentioned previously, the regional transportation survey interviewed 1,500 residents in the 13-county non-attainment area. This section presents the key survey findings for eight primary topic areas. The topic areas closely follow the continuum of behavior change developed by the measurement team in FY2001 to measure the region's progress in changing individual and employer behavior about the voluntary use of alternative transportation to help reduce traffic congestion and improve air quality in the metropolitan Atlanta region. From initial awareness to taking an action, the continuum includes a progression of steps commuters typically take before making a permanent behavior change. The topic areas include:

- Awareness of the traffic congestion and air quality issues
- Awareness of the regional programs and services to help with commuting
- Attitudes about regional commute assistance programs and services
- Contact with regional commute assistance programs and services
- Participation in regional commute assistance programs and services
- Commute assistance services provided by employers
- Commute behavior (current and trial use)
- Factors influencing alternative mode use

The regional transportation survey is the sixth regional transportation survey conducted by the measurement team over the past three years. December 2002 regional transportation survey findings are compared to previous regional surveys findings in this section, when possible. The schedule and sample sizes for the six surveys are presented in Table 2.

TABLE 2: REGIONAL TRANSPORTATION SURVEYS

Survey Month/Year	Sample Size
March 2000	758
June 2000	603
September 2000	603
November 2000	600
May 2001	1,501
December 2001	1,000
December 2002	1,500

A host of conditions related to urbanization, such as employment density, infrastructure availability, parking availability, and traffic congestion, play a role in commuter interaction with and use of commute assistance programs. As such, comparisons between survey responses and the level of urbanization or density for the respondents' work location are also presented in this section. The levels of urbanization classifications shown in Table 3 are based on the defined geographic territories for the region and urbanizations factors such as employment density, transit access, and parking availability. For example, high urbanization areas have higher employment density, the greater transit access, and limited parking availability than medium urbanization areas, while medium urbanizations areas have higher employment density, greater transit access, and limited parking availability than low urbanization areas.

TABLE 3: RESPONDENT WORK LOCATION BY LEVEL OF DENSITY

Level of Urbanization	Percentage
High (n=386)	**37%**
Downtown	9%
Buckhead	8%
Midtown	9%
Perimeter	11%
Medium (n=364)	**36%**
North Fulton/400 Corridor	7%
Airport	11%
Cumberland	10%
Decatur/Clifton Corridor	8%
Low (n=286)	**28%**
Norcross/Peachtree Industrial	7%
South Atlanta	9%
Town Center	7%
Other	5%

AWARENESS OF THE PROBLEMS

Typically commuters must be aware of the problems relating to driving alone, and particularly commuting alone, before they will make a permanent commute change. Commuter awareness of these can be a critical precursor to alternative mode use and typically is one of the first steps an organization such as The Clean Air Campaign or Transportation Management Association will take to generate interest in commute alternatives. Below are some key findings identified in the regional transportation survey gauging commuter awareness of traffic congestion and air quality problems.

Seriousness of the Problem

Metro Atlanta residents are aware the region is experiencing problems with traffic congestion and air quality. When asked to rate the seriousness of various issues in Atlanta on a one-to-ten scale, Atlanta residents rank traffic congestion an 8.4 and air quality an 8.5 (where "1" means not at all important or serious and "10" means very important or serious).

TABLE 4: AIR QUALITY AND TRAFFIC CONGESTION CONCERN
(n=1,500)

Regional Transportation Surveys	Mean Rating (1-10 scale)	
	Air Quality	Traffic Congestion
May 2001	7.8	8.8
December 2001	8.4	8.5
December 2002	8.5	8.4

QUESTION: Using a scale of 1 to 10, where a "1" means it is not at all important or not at all serious and a "10" means it is very important or very serious. The first/next issue is…

Quality of Life Information Recall

When asked about awareness of quality of life issues they saw, read, or heard information about, metro Atlanta residents continue to recall traffic congestion (55% recall) and air quality (45% recall) issues. As shown in Table 5, there has been a substantial increase in recall of traffic congestion related information over the span of the six regional transportation surveys conducted as part of the research and measurement program. Increases in recall from December 2001 to December 2002 are statistically significant.

TABLE 5: QUALITY OF LIFE – METRO ATLANTA RESIDENT INFORMATION RECALL

Regional Transportation Surveys	Information Recall	
	Traffic Congestion	Air Quality
June 2000	23%	46%
September 2000	31%	36%
November 2000	36%	37%
May 2001	32%	57%
December 2001	31%	32%
December 2002	55%	45%

QUESTION: What was the issue you saw, read, or heard information about?
(Modified in December 2002, from "advertising" recall to "information" recall.)

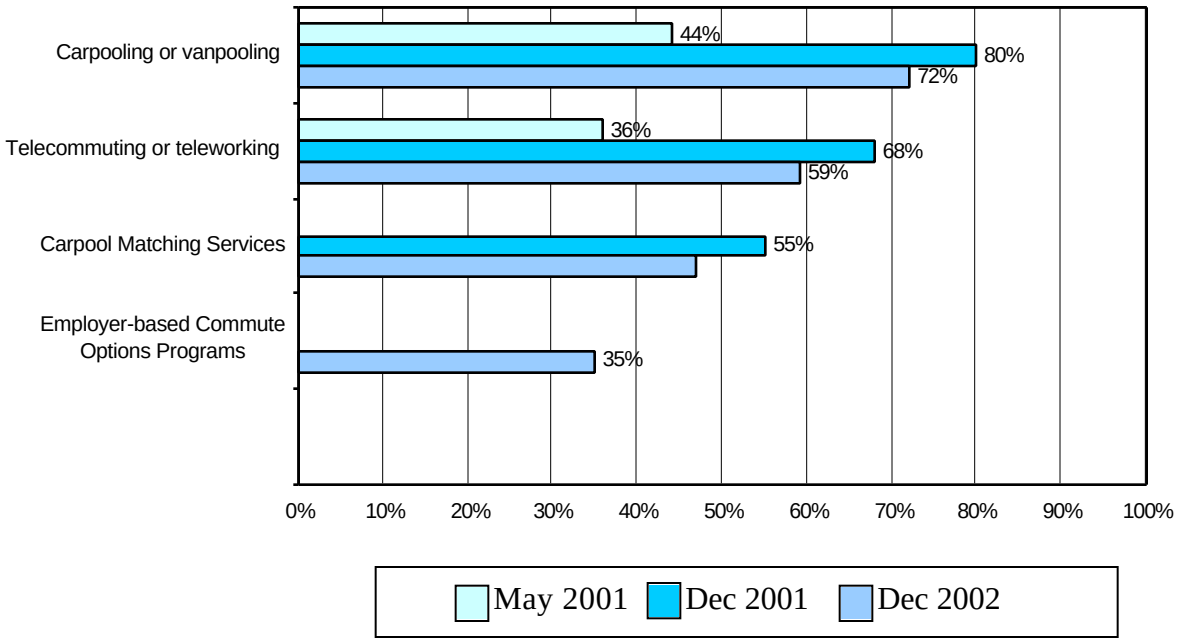
AWARENESS OF SOLUTIONS

Commuters must also be aware of the solutions to the problems and the resources and services available to assist them in making travel choices. Below are some key findings identified in the regional transportation survey gauging commuter awareness of specific commute alternatives and commute assistance programs offered by their employer or by the Atlanta TDM Framework.

Commute Alternative and Commute Assistance Program Information Recall

The percentage of metro Atlanta residents who recall seeing, reading, or hearing information about specific commute alternatives and commute assistance programs declined at a statistically significant rate from December 2001 to December 2002. Nonetheless, metro Atlanta resident recall for these commute alternatives and commute assistance programs remains strong. As shown in Figure 1, nearly three quarters (72%) of residents have seen, read, or heard carpooling or vanpooling information. Nearly six in ten respondents (59%) recalled information about telecommuting or teleworking. Almost half (47%) recall information about carpool matching services and more than one in three (35%) recall information about employer-based commute options programs.

FIGURE 1: COMMUTE ALTERNATIVE AND COMMUTE ASSISTANCE PROGRAM INFORMATION RECALL



QUESTION: Please tell me if you recall seeing, hearing, or reading information in the past six months about…. *(Modified in December 2002, from "advertising" recall to "information" recall.)*

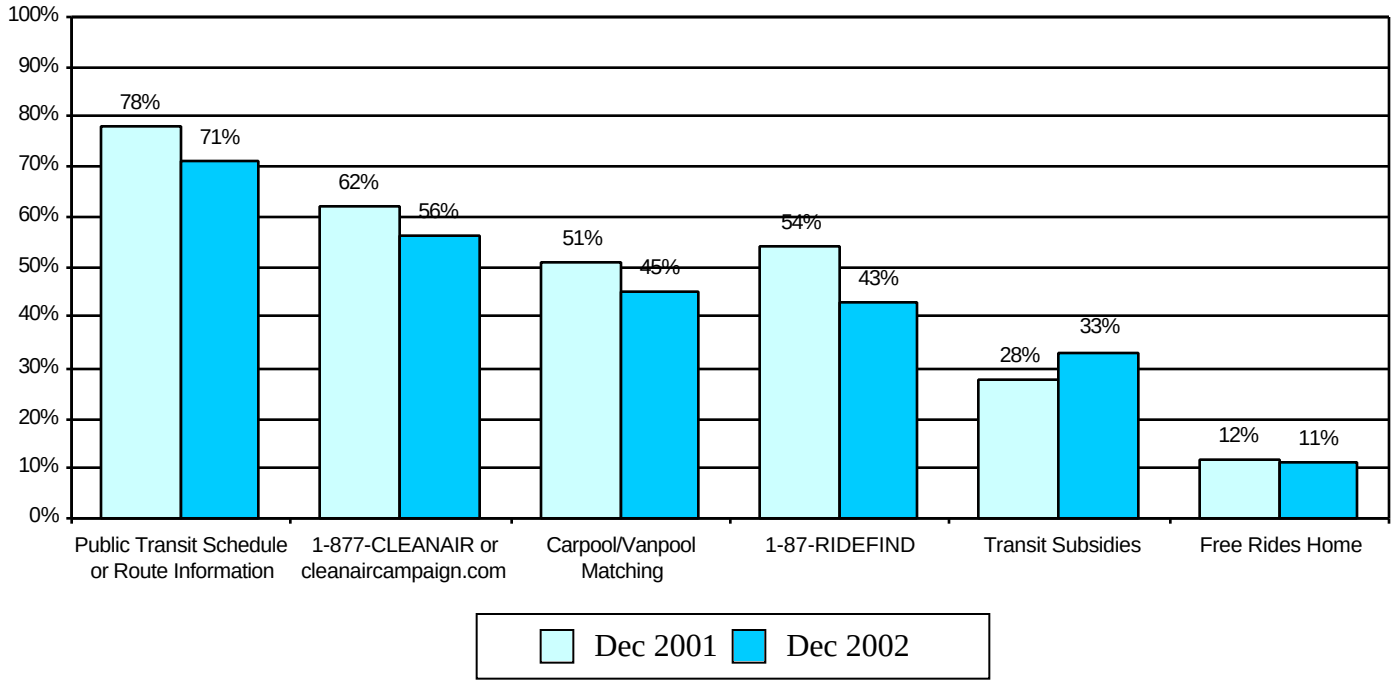
Commute Alternative and Commute Assistance Program Information Sponsor Recall

The majority of metro Atlanta residents who recalled seeing, reading, or hearing information about commute alternatives and commute assistance programs could not recall the information sponsor (i.e., don't know/refused to answer question). The Clean Air Campaign and the Department of Transportation were the most prevalent responses for those who could recall the information sponsor, ranging from 4%-6% for The Clean Air Campaign as the sponsor and 6%-8% for the Department of Transportation as the sponsor. Survey respondents did not recall 1-87-RIDEFIND as an information sponsor, the regional ridesharing and matching service in the metro Atlanta region.

Awareness of Regional Commute Assistance Services

The regional transportation survey also polled metro Atlanta residents to find out if they had heard about specific regional services available to help them with their commute. As shown in Figure 2, awareness dropped slightly from December 2001 to December 2002 for most services, but overall awareness remains high. The drops in awareness are statistically significant for all services, excluding Free Rides Home. The increase in awareness of transit subsidy services was statistically significant as well.

FIGURE 2: METRO ATLANTA RESIDENT AWARENESS OF REGIONAL COMMUTE ASSISTANCE SERVICES



QUESTION: I'm going to read you a list of programs and services available here in the Atlanta area to help commuters. As I read each one, please tell me if you have heard of the service or not….?

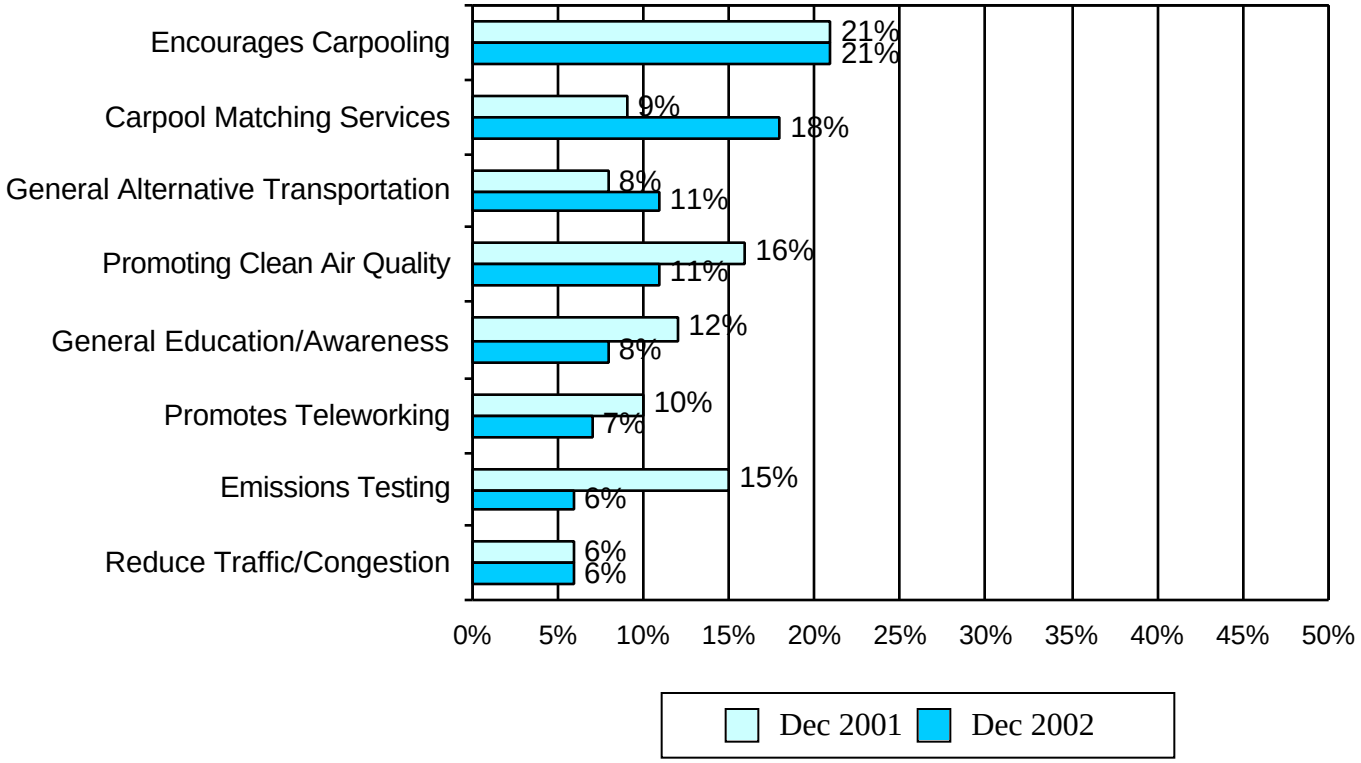
Awareness of The Clean Air Campaign

Metro Atlanta residents experienced statistically significant increases in awareness of The Clean Air Campaign and many of the services offered by the organization during the past year. As a result, awareness levels are comparable to the May 2001 survey awareness levels (49%). Awareness of The Clean Air Campaign increased from 41% in December 2001 to 50% in December 2002.

In addition, nearly 50% (375 people) of metro Atlanta residents indicating awareness of The Clean Air Campaign in December 2002 associated some form of alternative transportation activity with the organization. In December 2001, 45% of people who were aware of The Clean Air Campaign (41%) associated the organization with some for of alternative transportation activity.

As shown in Figure 3, residents continue to describe carpooling encouragement as the largest function associated with The Clean Air Campaign (21% in 2001 and 2002). Statistically significant changes included the number of residents associating The Clean Air Campaign with carpool matching services (18% in 2002 compared to 9% in 2001) and with emissions testing (6% in 2002 compared to 15% in 2001).

FIGURE 3: AWARENESS OF CLEAN AIR CAMPAIGN ACTIVITIES



QUESTION: Specifically, what services does The Clean Air Campaign provide? What other services does the Clean Air Campaign provide?

ATTITUDES ABOUT COMMUTE ASSISTANCE PROGRAMS

Following closely to commuter awareness are commuter attitudes about commute alternatives and commute assistance programs. Once awareness is up, program and service managers typically begin to focus on regional attitudes about alternative commute programs and services. Key measures include how the region perceives the severity of traffic problems and the value of commute programs.

As shown in Table 6, about half (50%) of metro Atlanta residents who said their employer offered employer-sponsored commute assistance programs gave these programs a ranking of extremely valuable or very valuable, a statistically significant decrease from the previous year. Sixty-one percent of respondents ranked employer-sponsored programs extremely valuable or very valuable in December 2001.

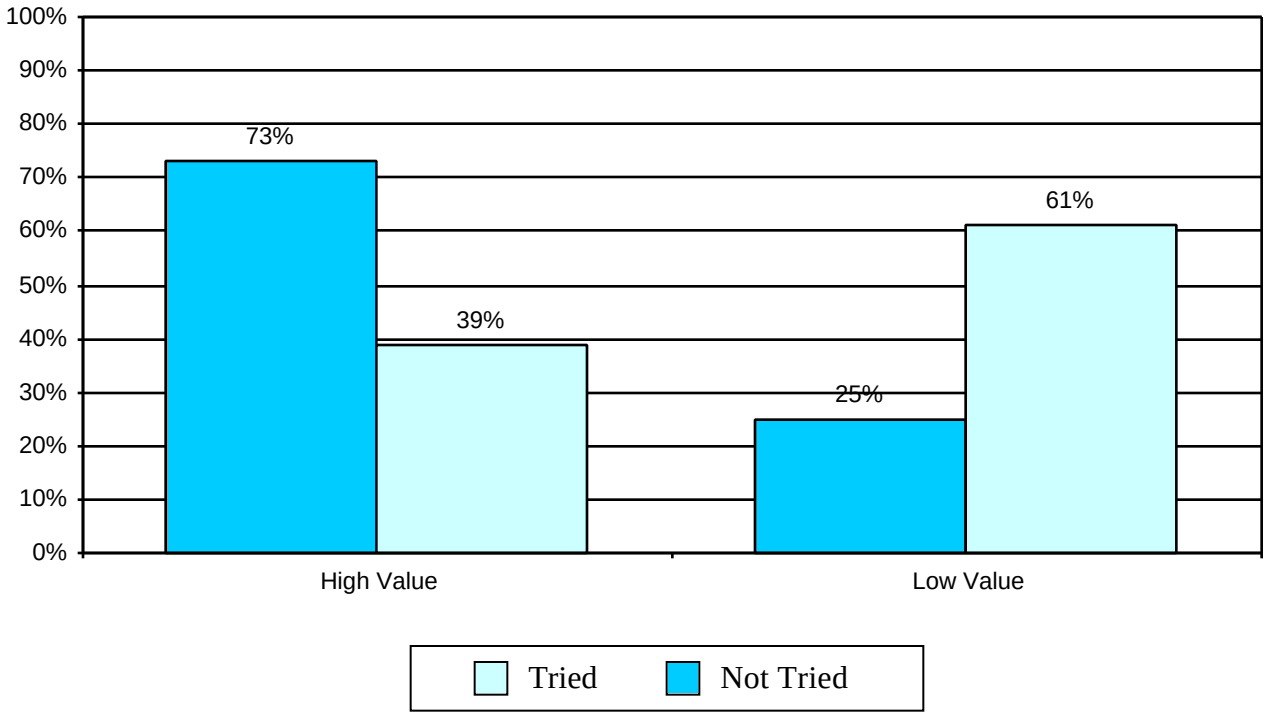
TABLE 6: PERCEIVED VALUE OF EMPLOYER COMMUTE ASSISTANCE PROGRAMS

Perceived Value of Employer Programs	December 2001	December 2002
TOTAL VALUABLE (NET)	61%	50%
TOTAL NOT VALUABLE (NET)	39%	49%
Extremely valuable	26%	24%
Very valuable	36%	27%
Of some value	18%	31%
Of little or no value	20%	18%

QUESTION: Have you taken advantage of or tried these special programs or services? How valuable do you find these commuting services? Do you find them…

Employed residents who have tried a commute assistance program offered by their employer rank these programs higher in value than those who have not tried them, as shown in Figure 4.

FIGURE 4: PERCEIVED VALUE OF COMMUTE ASSISTANCE PROGRAMS FOR EMPLOYEES WHO HAVE TRIED THEM



QUESTION: Have you taken advantage of or tried these special programs or services? How valuable do you find these commuting services? Do you find them…

Similarly, residents who have been in contact with The Clean Air Campaign were asked to rank the value of the organization. As shown in Table 7, the majority (80%) gave the organization an extremely valuable or somewhat valuable ranking, representing a statistically significant increase from the previous year (67%). As a result, the perceived value of The Clean Air Campaign is comparable to the May 2001 survey findings.

TABLE 7: PERCEIVED VALUE OF THE CLEAN AIR CAMPAIGN

Perceived Value of Clean Air Campaign	May 2001	December 2001	December 2002
Total Valuable (net)	**82%**	**67%**	**81%**
Total Not Valuable (Net)	**16%**	**33%**	**18%**
Extremely Valuable	39%	22%	32%
Somewhat Valuable	43%	45%	48%
Of Little Value	10%	19%	12%
Not Valuable at all	5%	13%	6%

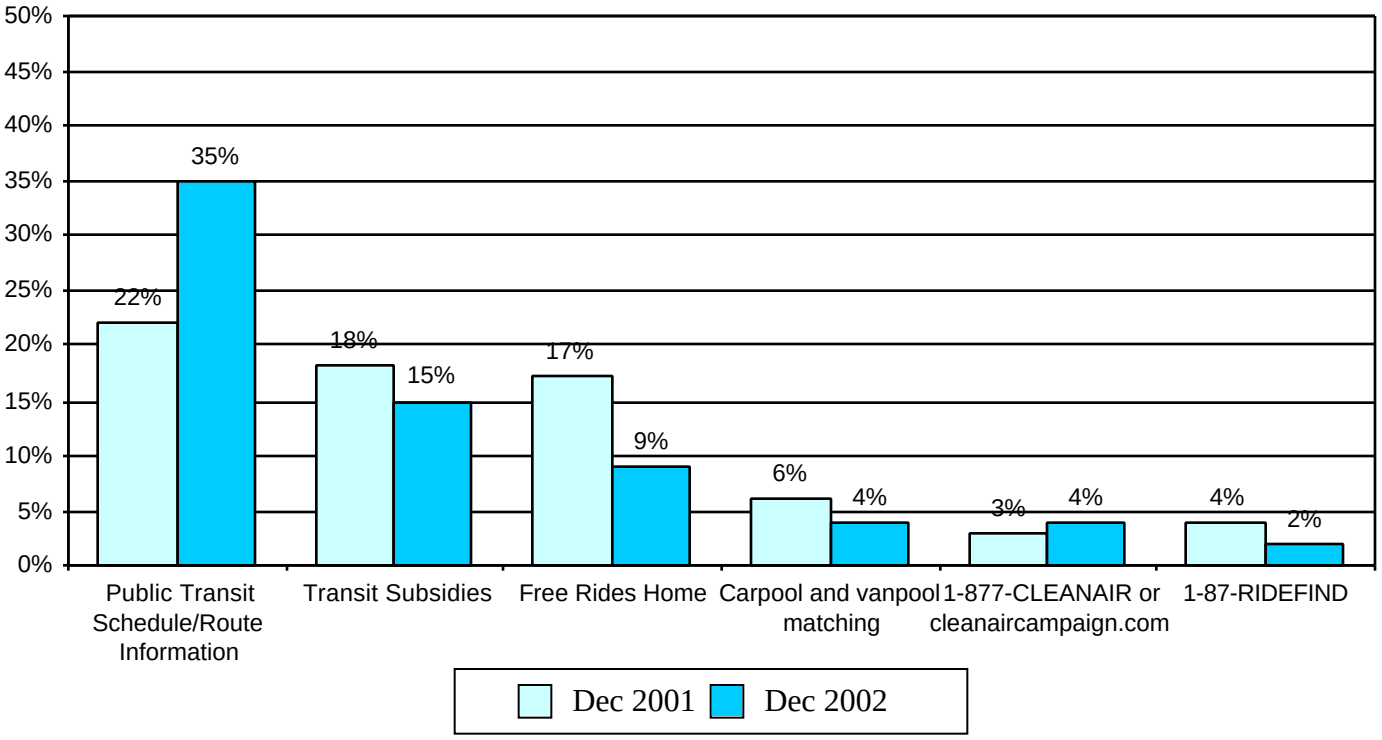
QUESTION: How valuable do you personally find an organization such as this? Do you find it:

CONTACT WITH REGIONAL PROGRAMS AND SERVICES

The Atlanta TDM Framework encourages commuters, employers, and property managers to contact Framework partners to learn more about the resources and service outlets available to assist them with commuting. Contact is a useful measure because it is an early indicator of how successful the Atlanta TDM Framework might be in encouraging participation in alternative modes.

The regional transportation survey polled metro Atlanta residents who were aware of several regional services available in the Atlanta area to find out if they had been in contact with the services. As shown in Figure 5, metro Atlanta residents have had greater contact with transit related services. The changes from December 2001 to December 2002 for "public transit schedule or route information" and "free rides home" services are statistically significant, while other service changes are not statistically significant.

FIGURE 5: CONTACT WITH REGIONAL PROGRAMS AND SERVICES



QUESTION: I'm going to read you a list of programs and services available here in the Atlanta area to help commuters. As I read each one, please tell me if you have heard of the service or not and if so, if you have contacted or been contacted by anyone regarding this service?

Regional transportation survey interviewers also asked metro Atlanta residents who had heard of The Clean Air Campaign organization if they had been in contact with the organization. As of December 2002, 6% of metro Atlanta residents had been in contact with The Clean Air Campaign, compared to 8% in December 2001. Residents who work in more urbanized areas of the region are more likely to interact with The Clean Air Campaign than respondents working in less urbanized areas. The decrease in contact is not statistically significant.

TABLE 8: AWARENESS AND CONTACT WITH THE CLEAN AIR CAMPAIGN

Contact with CAC Services	December 2001	December 2002
Yes	8%	6%
No	90%	94%
Don't Know/Refused	1%	**

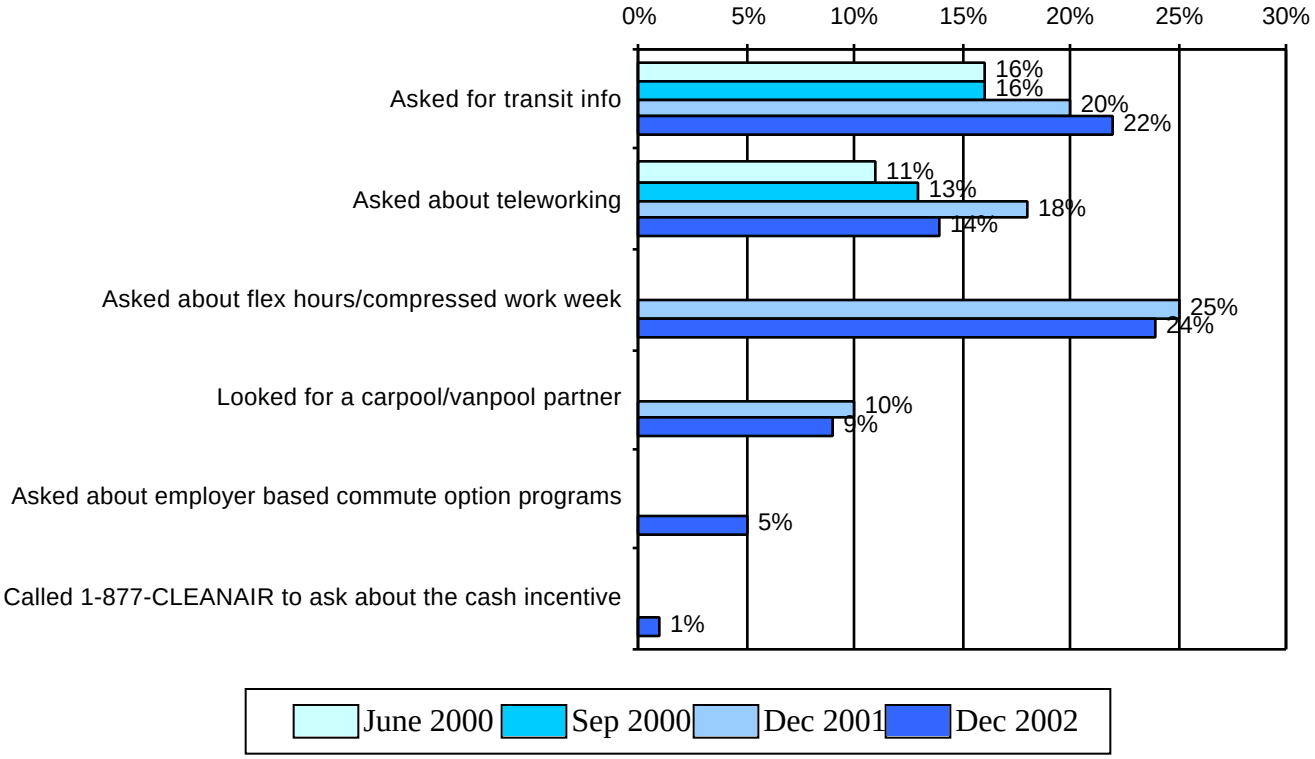
QUESTION: Have you called or been contacted or in any way used the services offered by The Clean Air Campaign?

Large Scale Media Campaign and "Calls to Action"

The regional transportation survey polled metro Atlanta residents to find out if they had taken specific actions in response to seeing, hearing, or reading various advertisements. As shown in Figure 6, several of these actions, including those promoted by The Clean Air Campaign, registered with metro Atlanta residents. The changes from December 2001 to December 2002 are not statistically significant; however, the changes from the early June and September 2000 surveys were statistically significant for the "Asked about teleworking" in December 2001 and "Asked for transit information" in December 2002.

These comparisons provide an indication of intermediate behavior—a small step a commuter may take before he or she decides to try an alternative mode—and the influence the large-scale media campaign, public relation activities, and other Framework partner outreach efforts have on these actions.

FIGURE 6: SPECIFIC ACTIONS RELATED TO ADVERTISING

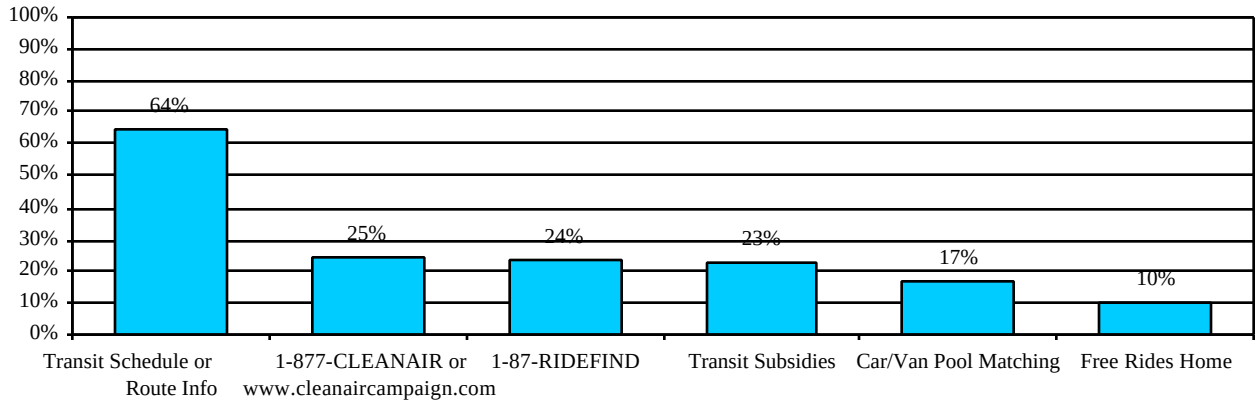


QUESTION: Now, I am going to read you a list of actions that some people might take after seeing, hearing, or reading various advertisements. As I read each one, please tell me if in the past year, you have: taken this action, considered taking this action, or not taken this action.

PARTICIPATION IN COMMUTE ASSISTANCE PROGRAMS

The Atlanta TDM Framework encourages commuters to participate in regional services to assist them with commuting alternatives. The regional transportation survey polled metro Atlanta residents who had been in contact with regional services available in the Atlanta area to find out if they had used any of the services. As shown in Figure 7, the services used most frequently are transit related: "public transit schedule or route information". About a quarter of those who had been in contact with the two region-wide information lines (1-877-CLEANAIR and 1-87-RIDEFIND) stated they had used services provided by information specialists answering the phone lines.

FIGURE 7: USE OF REGIONAL PROGRAMS AND SERVICES



QUESTION: Earlier you mentioned that you have contacted or been contacted regarding alternative modes of transportation services. Of those services or programs that you have contacted or been contacted, which ones have you used?

COMMUTE ASSISTANCE SERVICES PROVIDED BY EMPLOYERS

This section examines availability of employer or property manager sponsored commute assistance programs, that is, commute assistance employers or property managers provide directly to employees or tenants'. This section also examines employee use of these services.

Availability of Programs

The regional transportation survey polled metro Atlanta residents to find out if their employers offered any commute assistance programs. The survey showed that more metro Atlanta residents had access to employer worksite commute assistance programs in 2002 (24% of respondents) compared with 2001 (20% of respondents), although these changes are not statistically significant. Because the employee may not be aware of the programs offered by their employer (for example, if the employer does not promote the services or if the employee did not notice the promotional information), these results could underestimate the actual program availability.

TABLE 9: EMPLOYEE AWARENESS OF EMPLOYER COMMUTE ASSISTANCE PROGRAMS

Employee Aware of Employer Assistance Programs	Regional Transportation Surveys	
	December 2001	December 2002
Yes	20%	24%
No	79%	73%
Don't Know	1%	3%

QUESTION: As far as you know, does your employer offer any programs or assistance to employees who are interested in alternative modes of transportation or commuting alternatives?

Survey findings also reveal availability or awareness of commute assistance programs is more common for metro Atlanta residents working in more urbanized areas. Thirty-four percent of residents working in more urbanized areas said they had access to employer sponsored commute assistance programs, compared to 24% in areas of medium urbanization and 9% in areas of lower urbanization.

Table 10 shows the top 10 employer-sponsored commute assistance services metro Atlanta residents said were available at their worksite. The percentage of respondents noting availability of employer carpool subsidies increased from 3% in 2001 to 11% in 2002, representing the only substantial shift during this time period, although the shift is not statistically significant.

TABLE 10: AVAILABILITY OF SPECIFIC EMPLOYER COMMUTE ASSISTANCE PROGRAMS

Commute Assistance Programs	December 2001	December 2002
Subsidies or discount passes for employees who ride transit	47%	47%
Carpool or vanpool matching services	21%	22%
Teleworking opportunities	19%	16%
Shuttle services	13%	9%
Flexible arrival and departure schedules	9%	11%
Carpool subsidies	3%	11%
Reserved parking spaces for carpools and vanpools	9%	5%
Compressed or alternative work weeks	7%	5%
Subsidies for employees who vanpool	6%	5%
Free rides home	5%	4%

QUESTION: Specifically, what programs does your employer offer to employees who are interested in alternative modes of transportation or commuting alternatives?

Metro Atlanta residents who said their employers offered commute assistance have lower drive alone rates and are more likely to try commuting alternatives than employees who said their employers did not offer these services. As shown in Table 11, 62% of metro Atlanta residents who indicated their employer offered commute assistance drive alone to work, compared to 82% who drive alone who said they did not have access to or knowledge of these programs.

TABLE 11: COMMUTE BEHAVIOR FOR EMPLOYEES WHO SAID EMPLOYER OFFERS COMMUTE ASSISTANCE

Availability of Employer-Sponsored Commute Assistance Program	Yes	No
Drive Alone (Past week only)	62%	82%
Always Drive Alone (Past year including past week)	11%	28%
Tried an Alternative (Past week only)	39%	18%
Ever Tried an Alternative (Past year including past week)	90%	72%

Question: As far as you know, does your employer offer any programs or assistance to employees who are interested in alternative modes of transportation or commuting alternatives?

Use of Programs

Approximately 35% of metro Atlanta residents who said their employer offers commute assistance services have used a service (35% of 248). Use includes one-time, occasional, and regular use. Employees in more urbanized areas use employer-sponsored commute assistance services more often (39%) than employees in less urbanized areas (25%-30% of respondents have used an employer-sponsored commute assistance service).

TABLE 12: EMPLOYEE USE OF SPECIFIC EMPLOYER COMMUTE ASSISTANCE PROGRAMS

Employee Use of Employer Assistance Programs	Regional Transportation Surveys	
	December 2001	December 2002
Yes	42%	35%
No	58%	65%

QUESTION: Have you taken advantage of or tried any of these specicifc programs or service?

COMMUTE BEHAVIOR

The regional survey also polled metro Atlanta residents about their current weekly commuting behavior and trial use of commute modes. Table 13 summarizes the current mode split as a percentage of weekly trips made for all modes, including telework and compressed work week schedules for the last three surveys conducted by the measurement team. Changes in the number of weekly trips made during the three time periods presented are not statistically significant.

It is important to note the difficulty in determining the impact the Atlanta TDM Framework is having on commute changes from questions on currently weekly commute behavior in a regional transportation survey. Typically, changes in weekly trips associated with such programs are within the margin of error for regional survey, and difficult or impossible to detect, especially in an annual assessment.

TABLE 13: COMMUTE BEHAVIOR BY MODE AS A PERCENTAGE OF DAYS WORKED

Mode	May 2001 (n=1,104)	December 2001 (n=803)	December 2002 (n=1,037)
Drive Alone	85%	81%	83%
Carpool	10%	8%	7%
Vanpool	0%	0.4%	0.2%
MARTA Train	2%	2%	2%
Bus	0.6%	2%	1%
Walk/Bike	1%	2%	3%
Telework	2%	4%	4%
Compressed work day	N/A	2%	0.5%

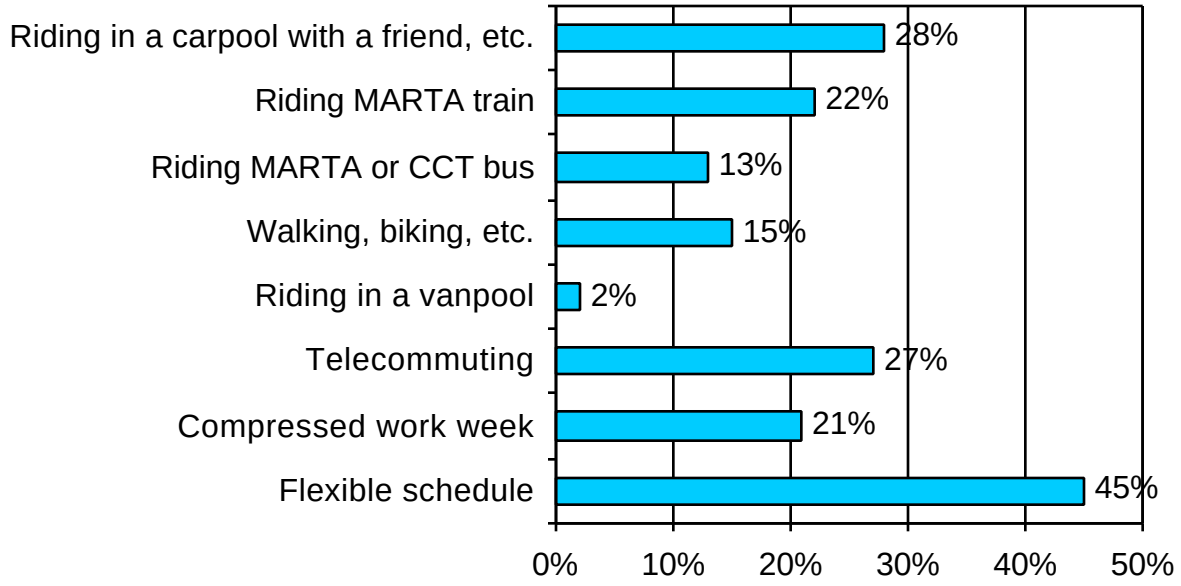
QUESTION: How did you get to work…

Commute behavior over the past week in the December 2002 survey demonstrates that those working in low-density areas have higher drive alone rates than those in medium-density and high-density areas. Individuals in high-density areas more consistently use alternative commutes.

Trial in Past Year

As shown in Figure 8, the number of metro Atlanta residents who have tried an alternative mode over the past year is much greater than the weekly mode split for residents presented in Table 13. Trial use includes occasional and one-time alternative mode commuters, in addition to commuters who use alternative modes on a regular basis.

FIGURE 8: COMMUTE BEHAVIOR, USE PAST YEAR



QUESTION: Please tell me if in the past year if you EVER traveled to WORK/SCHOOL by the following means.

Additional review of trial use of alternative modes by employment density reveals that trial use of train and bus more frequently occurs in high-density areas. Residents working in high-density areas are more likely to try public transit (bus or train) and workers in medium-density areas are more likely to try bike and pedestrian commute modes. Low-density commuters are slightly more likely to vanpool and employees in more highly dense employment areas have a greater tendency to try alternative work arrangements.

NON-COMMUTE BEHAVIOR

As shown in Table 14, a large number of Atlanta residents eliminated, combined, or increased the number of trips they made using alternative forms of transportation for non-commute trips during FY2002.

TABLE 14: USE OF ALTERNATIVE FORMS OF TRANSPORTATION FOR NON-COMMUTE TRAVEL

Alternative Form of Transportation	Percent of Metro Atlanta Residents	Trips Reduced Per Week
Eliminated Trips (due to online or phone transactions)	55%	2.9
Combined Trips (trip chaining)	83%	NA
Carpooling or vanpooling	14%	3.2
Bus or train	14%	1.8
Bicycling or walking	20%	2.5

Question: QUESTION: Please tell me if you have changed your non-commute trips by any of the following means?

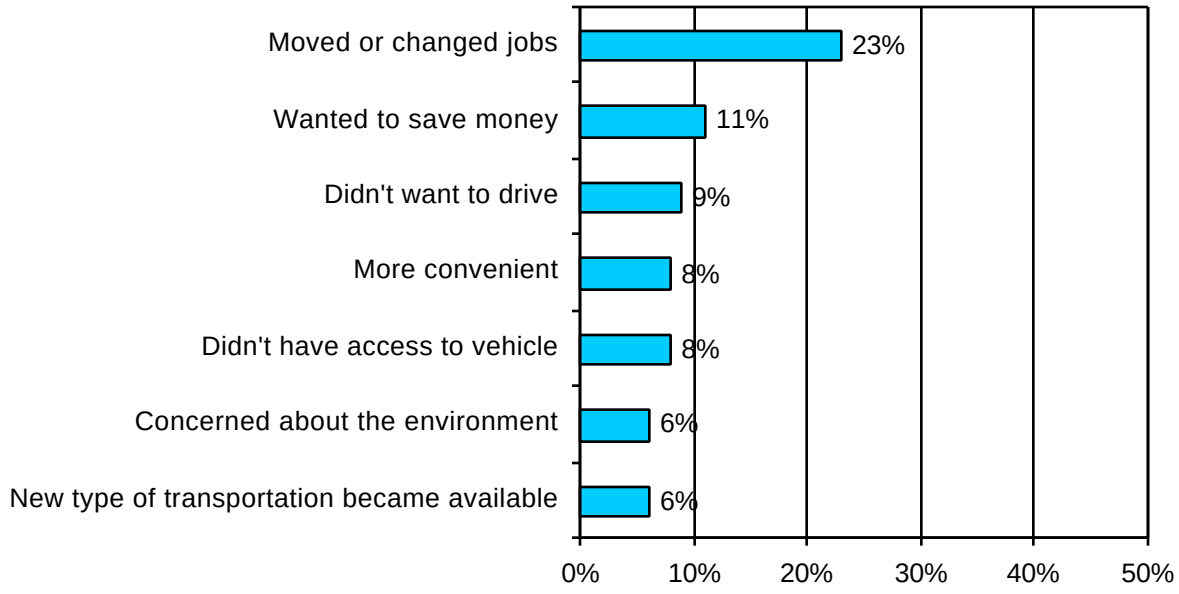
FACTORS INFLUENCING ALTERNATIVE MODE USE

The regional transportation survey also provides an opportunity to ask metro Atlanta commuters about the type of programs and services that might lead to greater use and adoption of commute alternatives and commute assistance programs. This section summarizes the motivating factors and barriers that prevent commuter use and adoption of commute alternatives and commute assistance programs.

Reasons for Alternative Mode Use

The regional transportation survey polled metro Atlanta residents who had made a commute change about what influenced them to make the change. As shown in Figure 9, a job change or move was the leading reason (23%) identified by respondents.

FIGURE 9: REASONS ATLANTA METRO ATLANTA RESIDENTS CHANGE TO ALTERNATIVE MODE USE



QUESTION: What influenced your decision to make this change in how you travel to work?

Reasons for Discontinued Alternative Mode Use

Metro Atlanta residents frequently claim they switch out of various alternatives because it is easier and more convenient to drive alone. As shown in Table 15, residents also claim job changes as a reason for discontinuing their alternative mode use, particularly for discontinued use of flexible schedules (40%). Residents cite a breakup of a carpool (25%) as a reason for discontinuing carpool. Residents who previously teleworked state their work no longer allows it (27%) as reason for discontinued use.

TABLE 15: REASONS FOR DISCONTINUED USE

	Flexible Schedule	Train	Bus	Bike/ Walk	Telework	Carpool	Vanpool
Easier/more convenient to drive	--	**22%**	**33%**	**35%**	**10%**	**4%**	-
Change jobs	40%	8%	4%	17%	19%	5%	-
Moved Residence	6%	5%	1%	11%	-	8%	-
Car became fixed	-	20%	12%	20%	-	11%	-
Changed to different alternate mode	-	2%	9%	-	-	11%	-
Didn't work with current schedule	19%	5%	7%	-	14%	15%	-
Carpool/ Vanpool broke up	-	-	-	-	-	25%	67%
Work doesn't allow it	4%	-	-	-	27%	-	-
Prefer driving alone	-	13%	9%	4%	-	-	-
Just didn't like it	4%	8%	4%	-	-	-	-
Took too much time	5%	8%	3%	10%	-	-	-
Doesn't go where I need it to	-	7%	12%	-	-	-	-

QUESTION: Can you tell me why you do not….any longer?

Factors Motivating Area Residents to Restart Alternative Mode Use

Metro Atlanta residents express common reasons for a potential return to regular use of alternative modes. As shown in Table 16, residents frequently cite better convenience and less hassle as motivating reasons to possibly return to using their prior alternative mode. Residents also cite the ease and better convenience in driving their own vehicle as main reasons for originally discontinuing their use of an alternative mode.

TABLE 16: MOTIVATING FACTORS TO START ALTERNATIVE COMMUTE MODE AGAIN

	Flexible Schedule	Train	Bus	Bike/Walk	Telework	Carpool	Vanpool
Better convenience/less hassle	18%	30%	38%	20%	-	24%	35%
Cash incentives	21%	22%	17%	6%	39%	21%	33%
Employer sponsorship	5%	5%	14%	7%	12%	15%	-
Employer subsides	6%	13%	8%	-	15%	9%	-
Better employer flexibility	28%	5%	-	-	22%	7%	-
Personal consultation	5%	4%	7%	-	-	2%	-
Access to bus/ train	-	5%	-	-	-	-	-

QUESTION: Which one of the following would best motivate you to start … again?

Reasons For Low Frequency Alternative Commute Use

Table 17 presents the reasons stated by metro Atlanta residents for infrequent use of commute alternatives. Similar to discontinued users, residents cite the ease and convenience of driving their own vehicle as barriers to not using alternatives more frequently, particularly for infrequent train (46%) and bus (46%) use (see Table 29). Residents also cite problems with the mode not meeting their current schedule, stating that work does not allow a use of flexible schedules (20%) or teleworking (18%).

TABLE 17: REASONS FOR INFREQUENT ALTERNATIVE MODE USE

	Flexible Schedule	Train	Bus	Bike/Walk	Telework	Carpool	Vanpool
Easier/more convenient to drive	1%	46%	47%	22%	9%	27%	12%
Change jobs	3%	3%	1%	-	6%	-	-
Moved residence	1%	2%	1%	2%	-	3%	4%
Need car for work	-	-	-	-	-	5%	-
Car became available	-	-	4%	5%	-	4%	-
Change to different alternative mode	2%	2%	2%	1%	2%	2%	-
Didn't work with current schedule	24%	3%	4%	2%	17%	26%	34%
Work doesn't allow it	20%	-	-	-	18%	-	-
Prefer driving alone	-	2%	1%	-	-	1%	-
Just didn't like it	-	-	5%	-	>1%	2%	-
Took too much time	-	14%	8%	12%	1%	1%	-
Doesn't go where I need it to	-	13%	6%	-	-	-	-
Don't need to	8%	5%	2%	-	>1%	6%	12%
Carpool/ Vanpool broke up	-	1%	-	-	>1%	4%	18%
Cheaper to drive	-	5%	2%		>1%		
Weather conditions	-	1%	-	22%	-	-	-
Need to be at office	-	-	-	-	23%	-	-

QUESTION: You indicated that you … in the past year. Can you tell me why you do not …more frequently?

Factors Motivating Increased Alternative Mode Use

Similar to factors of discontinued use or restarting use of alternative modes, residents cite the better convenience and less hassle of the alternative as motivators to start using the mode more frequently. As shown in Table 18, residents highly rate the use of incentives to draw them into more frequent use of alternatives, particularly for bike/walk (36%). A range of motivating factors would draw residents to telework, including incentives (14%), employer sponsorship (17%), and better employer flexibility (26%).

TABLE 18: MOTIVATING FACTOR TO INCREASE FREQUENCY

	Flexible Schedule	Train	Bus	Bike/Walk	Telework	Carpool	Vanpool
Better convenience/less hassle	32%	50%	47%	33%	19%	35%	23%
Cash incentives	13%	14%	16%	36%	14%	26%	23%
Employer sponsorship	13%	3%	14%	7%	17%	5%	-
Employer subsides	8%	9%	3%	6%	4%	5%	-
Better employer flexibility	24%	2%	6%	2%	26%	6%	-
Personal consultation	-	3%	5%	3%	>1%	4%	-
Access to bus/ train	-	-	-	-	-	-	-
Nothing	7%	7%	12%	10%	17%	14%	43%

QUESTION: Which one of the following would best motivate you personally to … more frequently?

User Profile

To assist in profiling users of alternative modes over time, the measurement team reviewed key characteristics of metro Atlanta residents who have tried alternatives versus those who have never tried alternatives. The measurement team produced profiles of those who have tried any of the alternative modes, those who have tried carpooling, and those who have tried teleworking.

Ever Tried Any Alternative Mode - Generally speaking, those who have tried any alternative mode are more likely to have an employer-based commute program; are more educated; work in more urbanized regions; work in the private sector; earn higher income; and recall commuting information.

Ever Tried Carpooling Profile - When compared with those who have never tried carpooling, metro Atlanta residents who have tried carpooling share the following characteristics: more likely to have an employer who offers commute programs; less than 35 years of age; work in areas of medium urbanization region; and recall having seen carpooling information.

Ever Tried Teleworking Profile - Metro Atlanta residents who have tried teleworking are more likely to have an employer who offers commute programs; be a college graduate or post graduate; work in high-density areas; be older; work for a private organization; have higher income; be Caucasian, be Atlanta residents; and recall seeing teleworking information.

Alternative Mode Use Frequency Profile

The measurement team also reviewed frequency of use survey findings for some key commute alternatives. A summary of the findings is presented below.

Carpool Frequency - Metro Atlanta resident frequency of carpooling is consistent over the life of six surveys. One in five who carpools does so five to seven days per week; about one in ten of those who carpools does so three to four days a week and about one in ten who carpools does so one to two days per week. Carpool frequency information reveals that carpooling is a regularly used alternative with nearly one-third of users carpooling three or more days per week.

MARTA Train Frequency - Trend information over time reveals a slight decline in the percentage of commuters who regularly use the MARTA train five to seven days per week. Regular weekly users exceed periodic monthly users implying the MARTA train is a more permanent mode use than a trial behavior.

Telework Frequency - Review of teleworking frequency reveals a long-term decline in regular five to seven day use of teleworking. However, use of teleworking for periods of one to two days per week shows a slight increase over time. The use of teleworking as a commute option is generally seen in the 1-2 day per week teleworking programs. The positive trend in this category is likely due to many factors, including regional commute options programs and advertising emphasis on teleworking and its increased potential and availability due to technology improvements

Compressed Work Week Frequency - By a large margin, the preferred compressed week schedule for metro Atlanta residents using this alternative is four 10-hour work days each weekection 4

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The ultimate goal of the Atlanta TDM Framework is to encourage commuters who are driving alone to work to shift to alternative transportation modes and to encourage commuters who currently use alternative modes to continue to do so. Before this can happen, commuters must be aware of the problems associated with driving alone and the programs and services available to help them with their commute. A brief summary of the survey findings for the December 2002 regional transportation survey is presented below.

Metro Atlanta residents are aware the region is experiencing problems with traffic congestion and air quality and recall seeing, reading, or hearing information related to these issues. Metro Atlanta residents also show moderate to strong recall on information about specific commute alternatives and commute assistance programs. The majority of metro Atlanta residents cannot recall the sponsor of the information they saw, read, or heard. However, The Clean Air Campaign and the Department of Transportation were the most prevalent responses for those who could recall the information.

Metro Atlanta residents show continued awareness, near 50% or more, for several regional services available to help commuters, including the 1-877-CLEANAIR and 1-87-RIDEFIND information lines. Residents who work in more urbanized areas of the region show the greatest awareness of regional services.

Metro Atlanta residents also show strong awareness of The Clean Air Campaign organization. Nearly half associate The Clean Air Campaign with some form of alternative transportation activity, a slight increase from the previous year. Residents continue to describe carpool encouragement and carpool matching services as primary functions of The Clean Air Campaign.

Atlanta residents consider traffic congestion and air quality serious quality of life issues. About half of the metro Atlanta residents who said their employer offered employer-sponsored commute assistance programs gave employer-sponsored programs a ranking of extremely valuable or very valuable. Residents who have tried a commute assistance program offered by their employer rank these programs higher in value than those who have not tried them. The majority of metro Atlanta residents who have been in contact with The Clean Air Campaign organization gave it an extremely valuable or somewhat valuable ranking.

Contact and actual use of regional services among metro Atlanta residents is most notable for services related to transit use and services provided by information specialists at the region-wide information phone lines (1-877-CLEANAIR and 1-87-RIDEFIND) and at The Clean Air Campaign website (www.cleanaircampaign.com).

More metro Atlanta residents had access to worksite commute assistance programs in 2002 than in 2001. Availability of commute assistance programs was more common for residents working in more urbanized areas. These residents have lower drive alone rates and are more likely to try commute alternatives than employees who said they did not have access to services provided by their employer.

The percentage of metro Atlanta residents noting availability of specific employer-sponsored programs did not increase substantially over the fiscal year; the only significant increase was employer-sponsored carpool subsidies. One-in-three metro Atlanta residents who said their employer offers commute assistance services used at least one service during the year. Employees working in more urbanized areas used employer commute assistance services more often than employees working in less urbanized areas.

RECOMMENDATIONS

As mentioned previously, the ultimate goal of the Atlanta TDM Framework is to encourage commuters who are driving alone to work to shift to alternative transportation modes and to encourage commuters who currently use alternative modes to continue to do so. The conclusions above indicate that metro Atlanta residents are aware of the problems and, to some degree, the regional services available to assist them. And, although limited, metro Atlanta residents who are ware of the regional services are contacting and using them to assist with their commute. A brief summary of the suggested areas of enhancement to help increase the level of awareness, contact, and use of commute assistance programs, both at the regional and employer level, are presented below.

- **Encourage Employers and Property Managers to Implement More Enhanced Commute Assistance Programs** - The Atlanta TDM Framework should continue to focus on encouraging employers and property managers to implement enhanced commute assistance programs, including the increased use of incentives to promote alternative mode use. Overall, the employee drive alone rate for employers that offer enhanced commute assistance to their employees is lower than the drive alone rate for employers offering information and support assistance only. The lower drive alone rates translate into higher alternative mode use, including carpooling and transit use. Consequently, employers providing enhanced commute assistance have greater levels of travel and emissions reductions than employer worksites providing only information and support assistance.

- **Target Urbanized Areas** - A host of conditions related to urbanization, such as employment density, infrastructure availability, parking availability, and traffic congestion play a role in commuter, employer, and property manager awareness, interaction, and use of commute assistance programs and availability of commute assistance programs. Regional transportation survey findings show Atlanta residents working in more urbanized areas are more aware of commute assistance programs and services and more receptive to using these programs and services.

  Currently, TMAs provide employer and individual outreach to eight of the region's dense employment centers. The Clean Air Campaign private sector outreach provides outreach throughout the metro-Atlanta region in areas outside the eight defined TMA territories. At the beginning of FY2003, CAC Private restructured its outreach approach to commit more resources to many of the region's most highly congested corridors and dense areas.

  While program enhancement is important throughout the metro Atlanta region, travel and air quality emission reductions may be achieved more efficiently when Framework partners focus in areas that have greater concentrations of commuters and greater infrastructure to support alternative mode use. These factors appear to offer substantial opportunities for behavior change.

  As such, the Atlanta TDM Framework should investigate the benefits that could be derived from adopting a more regional approach to assessing employer and individual outreach needs. The approach would include basing the allocation of outreach services (outreach staff) on employment density and other conditions related to urbanization. For example, assigning outreach staff to territories that are divided not by area size but by employment, so that denser areas have more staff to provide employer and individual outreach.

- **Focus Outreach on Employers and Property Managers** - Metro Atlanta residents who said their employer offered commute assistance programs are also more likely to try commuting alternatives and typically have lower drive alone rates. In addition, individuals who have tried employer sponsored programs place a greater value on them than those who do not. These

findings suggest significant potential for growth and enhancement of employer-sponsored programs through employer and property manager outreach.

A key component of focusing outreach on employers and property managers is using marketing and advertising dollars to promote the positive impacts commute assistance programs have on businesses' bottom line. The Clean Air Campaign began moving in this direction during FY2002 by using advertising messages with testimonials from prominent Atlanta business leaders such as Arthur Blank and Ted Turner.

Interaction with individual commuters through a regional program or service where the individual contacts the program directly rather than through an employer-sponsored program is also important. As identified in the regional travel survey, individual commuters interacting with regional services are more likely to use them, make commute changes to alternative modes, and have lower drive alone rates.

APPENDIX A – FINAL SURVEY

This appendix is included in the
FY2002 Atlanta TDM Framework Final Report Appendix Notebook

APPENDIX C – NON-COMMUTE TRAVEL AND EMISSION REDUCTIONS

Summary of Non-Commute Changes

Modes	Percent of pop increasing use of mode for non-commute	Weekly non-commute trips reduced	Daily non-commute trips reduced	Daily non-commute VMT Reduced	NOx (tons/day)	VOC (tons/day)
Carpool/Vanpool	206,448	369,575	52,796	480,799	0.71	0.61
Transit	194,422	41,434	5,919	256,891	0.38	0.33
Bike/Walk	290,631	541,953	77,422	154,844	0.23	0.20
Total	691,502	952,962	136,137	892,534	1.31	1.13

Non-Commute 2002 Carpool and Vanpool Travel and Emission Reductions

Metro Atlanta Population 16+ (2000 Census)	2,004,353
Percent of respondents w/ non-commute CP/VP trip reductions	10.3%
Percent of population increasing use of mode for non-commute	206,448
Weekly non-commute CP/VP trips reduced	2.40
Daily Non-commute Trips by Purpose in Region	
HOV	2,888,106
TR	180,001
Bike/Walk	215,279
SOV	5,282,153
Total Trips	8,565,539
Vehicle Trip Rate in Region	0.75
Weekly non-commute CP/VP trips reduced	369,575
Daily non-commute CP/VP trips reduced	52,796
Non-commute CP/VP trip distance	9.1
Daily non-commute CP/VP VMT reduced	480,799
NOx (tons/day)	0.71
VOC (tons/day)	0.61

Non-Commute 2002 Transit Travel and Emissions Reductions

Metro Atlanta Population 16+ (2000 Census)	2,004,353
Percent of respondents w/ non-commute TR trip reductions	9.7%
Percent of population increasing use of mode for non-commute	194,422
Weekly non-commute TR trips reduced	2.00
Daily Non-commute Trips by Purpose in Region	
HOV	2,888,106
TR	180,001
Bike/Walk	215,279
SOV	5,282,153
Total Trips	8,565,539
Vehicle Trip Rate in Region	0.75
Weekly non-commute TR trips reduced	290,038
Daily non-commute TR trips reduced	41,434
Non-commute TR trip distance	6.2
Daily non-commute TR VMT reduced	256,891
NOx (tons/day)	0.38
VOC (tons/day)	0.33

Non-Commute 2002 Bike and Walk Travel and Emission Reductions

Metro Atlanta Population 16+ (2000 Census)	2,004,353
Percent of respondents w/ non-commute B/W trip reductions	14.5%
Percent of population increasing use of mode for non-commute	290,631
Weekly non-commute B/W trips reduced	2.5
Daily Non-commute Trips by Purpose in Region	
HOV	2,888,106
TR	180,001
Bike/Walk	215,279
SOV	5,282,153
Total Trips	8,565,539
Vehicle Trip Rate in Region	0.75
Weekly non-commute B/W trips reduced	541,953
Daily non-commute B/W trips reduced	77,422
Non-commute B/W trip distance	2
Daily non-commute B/W VMT reduced	154,844
NOx (tons/day)	0.23
VOC (tons/day)	0.20

APPENDIX D – FY2002 ATLANTA FY2002 ATLANTA TDM FRAMEWORK FINAL REPORT

EVALUATION OF THE EFFECTIVENESS OF PROGRAMS CONTAINED IN THE "FRAMEWORK FOR COOPERATION TO REDUCE TRAFFIC CONGESTION AND IMPROVE AIR QUALITY"

PHASE THREE

FY2002 ATLANTA TDM FRAMEWORK FINAL REPORT

PREPARED FOR:
GEORGIA DEPARTMENT OF TRANSPORTATION

PREPARED BY:
CENTER FOR TRANSPORTATION AND THE ENVIRONMENT

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EXECUTIVE SUMMARY

INTRODUCTION

The Georgia Department of Transportation (GDOT) seeks maximum effectiveness of transportation demand management (TDM) projects that receive funds from the Congestion Mitigation and Air Quality Improvement (CMAQ) program. Effective projects are pursued through the coordination of TDM partners, referred to as the Atlanta TDM Framework (Framework), in the 13-county nonattainment area[1]. The Framework aims at changing individual employee and employer behavior regarding transportation modes. The desired result are actions that reduce congestion and improve air quality. Partners include eight Transportation Management Associations (TMAs), The Clean Air Campaign, Commute Connections (a program of the Atlanta Regional Commission), and other supporting services.

In 1999 GDOT contracted with the Center for Transportation and the Environment (CTE) to measure the effectiveness of the Framework's three major program areas: the media campaign, employer and individual outreach services, and regional supporting services. Overall goals of the contract are to enhance the media campaign and to evaluate the qualitative and quantitative impacts of the three program areas. Other goals are to establish a consistent evaluation protocol and to set up reporting procedures for the Framework. This report presents the results of Framework programs for federal fiscal year 2002, the third phase of the program.

The evaluation is a program level estimate of travel and emission reductions for a select group of Framework programs. The evaluation follows a standardized and rigorous protocol that results in a lower bound estimate of emissions reductions attributable to TDM programs. The estimate is considered lower bound because it does not capture all activities associated with all TDM programs, which would be cost prohibitive, nor does this evaluation capture the indirect effects of TDM programs that are not immediately evident to individuals making commute changes.

CTE did conduct a regional estimate of travel and emission reductions for the 13-county area to assess fulfillment of the 2004 State Implementation Plan (SIP) target for TDM related Voluntary Mobile Source Emission Programs (VMEP)[2]. The evaluation documents regional travel and emission reductions from commute and non-commute travel behavior changes for a 12-year, 5-year, and 2-year period. These findings are presented in a separate report.

FY2002 ATLANTA TDM FRAMEWORK EVALUATION

The FY2002 evaluation documents the activities of the Framework within the context of a performance measure "continuum". The continuum captures the range of impacts achieved by the Framework and includes performance measures that cover a progression of desired behavioral changes associated with TDM. At the far end of the continuum are the travel and emission reductions, the ultimate desired outcome of TDM.

In FY2002, the measurement team identified approximately 53,400 commute alternative mode users associated with Framework related TDM programs. These commuters are eliminating approximately 37,500 vehicle trips and 780,000 vehicle miles on a daily basis. As a result, two harmful ozone causing pollutants—oxides of Nitrogen (NO_x) and Volatile Organic Compounds (VOC)—are being reduced. Reductions achieved on a daily basis are .77 tons of NO_x and .89 of VOC. These emission

[1] Thirteen (13) county nonattainment area includes Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Paulding, and Rockdale counties.

[2] The VMEP target includes a daily reduction of 4.4 million vehicle miles, 4.28 tons per day (tpd) NO_x, and 6.51 tpd VOC to be achieved by 2004, the attainment or compliance year. The VMEP targets are presented by the Georgia Department of Natural Resources, Environmental Protection Division's SIP for the Atlanta region.

reductions are substantially higher than the emission reductions documented in the FY2001 Atlanta TDM Framework Evaluation (.53 tpd of NO_x and .58 tpd of VOC). While a direct comparison of travel and emission reductions from FY2001 to FY2002[3] is not statistically appropriate, the measurement team is confident that the Atlanta TDM Framework is increasing individual participation in commute assistance programs.

As mentioned, the FY2002 travel and emission reductions (.77 tpd of NO_x and .89 tpd of VOC) represent a program level estimate for a select group of Framework programs. The regional estimate presented in the SIP VMEP Update found that over the past five years nearly 270,000 commuters were placed in alternative commute modes. The total daily travel reduction from these commuters equals 207,400 vehicle trips and 4.1 million vehicle miles. The reduction in vehicle miles traveled translates into a reduction of 4.97 tpd of NO_x and 5.75 tpd of VOC. It is likely that actual travel and emissions reductions for TDM programs fall between the program estimates and the regional estimates.

Preceding travel and emission reductions (and at the beginning of the performance measure continuum) are other "precursor" changes commuters might make before permanently adopting a commute alternative. These changes are associated with commuters' and employers' awareness, attitudes, and participation in programs that encourage them to try commuting alternatives or get involved with commute assistance programs.

In terms of awareness, metro Atlanta residents know the region is experiencing problems with traffic congestion and air quality. They show moderate to strong recall on information about specific commute alternatives and commute assistance programs. Also, more than 50% of metro Atlanta residents are aware of several regional services available to help commuters, including the 1-877-CLEANAIR and 1-87-RIDEFIND information lines and The Clean Air Campaign.

Awareness of The Clean Air Campaign remains steady among local business leaders, while business leader awareness of 1-87-RIDEFIND and the Metropolitan Atlanta Rapid Transit Authority (MARTA) Partnership Program increased significantly. Business leader awareness of TMAs has also increased over the past year. This awareness appears to correspond with the level of commute assistance business leaders offer employees.

More business leaders are offering commute assistance to employees. However, only a small number of business leaders realize these programs qualify as commute assistance.

Framework partners also report increased contact between commuters, employers, and property managers and the region's TDM resources available to assist them. Calls to 1-877-CLEANAIR and 1-87-RIDEFIND, visitors to www.cleanaircampaign.com, and regional rideshare database registrants are on the rise. Framework partners sold approximately 238,300 monthly discount transit passes during FY2002, an increase of about 31% over the previous fiscal year. The region also added another 16 vans to its vanpool fleet, an increase of 9% from FY2001.

Overall, employees working for employers who collaborate with Framework partners to provide commute assistance services (referred to as Employer Participants) indicated greater availability and awareness of employer-sponsored commute assistance programs when compared to the regional average. One in three residents who said their employer offers commute assistance services used at least one service during the past year. However, many employees at Employer Participant worksites are not aware of the range and extent of commute assistance services offered by their employers. At the close of FY2002, Framework partners were working with approximately 670 employer clients and 107 property manager clients, an increase of about 21% from FY2001. Nearly 100 employers or

[3] In FY2002, the measurement team expanded the evaluation to include several new data sources.

property managers and more than 3,500 commuters were participating in Framework partner and Employer Participant incentive programs at the close of FY2002. Employees working where employers offer incentives have lower drive alone rates than those whose employer offer only information and support services.

RECOMMENDATIONS

The ultimate goal of the Atlanta TDM Framework is to encourage commuters who are driving alone to work to shift to alternative transportation modes and to encourage commuters who currently use alternative modes to continue to do so. The FY2002 evaluation assesses the Atlanta TDM Framework's activities toward reaching this goal, but also strives to identify opportunities to enhance future success. Some of the key areas of enhancement, or recommendations, are presented below. Because this is a dynamic and interactive process, CTE has already presented these recommendations to Framework partners and many are currently being implemented. More detailed recommendations are included in Chapter 6.

Educate the Audience

Employers and Property Managers:

- Communicate and market the multiple benefits that result from employer and property manager sponsorship of TDM programs.
- Encourage employers and property managers to provide employees ongoing information about the commute assistance services available to them.
- Use the large-scale media campaign to promote the positive impacts commute assistance programs have on businesses' bottom line.

Rideshare Database Registrants:

- Directly contact new rideshare registrants to motivate them to use the ridematch information and to provide them an opportunity to request additional assistance.
- Keep interest high among registrants by implementing a series of brief monthly or bimonthly commute-oriented messages, such as new incentive opportunities.

Individual Commuters:

- Because not all employers are receptive to employer-sponsored programs, provide regional programs and services to educate the individual commuter.
- Use the large-scale media campaign to promote regional programs and services to the individual.

Increase Financial Incentives to Encourage Alternative Mode Use and Adoption of Commute Assistance Programs

- Increase the level of incentives available for individuals, employers, and property managers.
- Encourage employers and property managers to implement incentive based commute assistance programs.

Target Urbanized Areas

- Investigate the benefits of a more regional approach to assessing employer and individual outreach needs, such as basing the level of outreach on employment density and other conditions related to urbanization.

Strengthen Coordination of Atlanta TDM Framework Activities

- Provide and promote commute assistance services in a more coordinated and integrated community wide approach.

- Build on the strengths of all Framework partner commute assistance programs, create economies of scale, and reduce the confusion among commuters and business leaders about these programs.

- Work towards a seamless approach and take advantage of local commute options and infrastructure, as well as employer or employee demand for services.

- Coordinate Framework partner advertising and public relation activities using messages that direct commuters to appropriate programs and services and provide them with the necessary resources and tools to act.

CHAPTER 1 RESEARCH AND MEASUREMENT PROGRAM OVERVIEW

INTRODUCTION

The Georgia Department of Transportation (GDOT) is leading an effort to coordinate and maximize the effectiveness of transportation demand management (TDM) related Congestion Mitigation and Air Quality Improvement (CMAQ) funded projects and other federal, state, and privately funded projects in the 13-county nonattainment area[4].

The GDOT effort, dubbed the **Atlanta TDM Framework (Framework)** specifically aims at changing individual and employer attitudes and behaviors about the voluntary use of alternative forms of transportation in order to reduce traffic congestion and improve air quality. The Atlanta TDM Framework formed in September 1999 with the signing of the *Framework for Cooperation to Reduce Traffic Congestion and Improve Air Quality*.

The *Framework for Cooperation to Reduce Traffic Congestion and Improve Air Quality* categorizes the Atlanta TDM Framework into three major program areas: media campaign, employer and individual outreach services, and regional supporting programs and services. Participating organizations, referred to as Framework partners, include:

1. Buckhead Area TMA (BATMA)
2. Clean Air Campaign
3. Central Atlanta Progress/Downtown TMA (CAP/Downtown)
4. Clifton Corridor TMA (CCTMA)
5. CobbRides TMA (CobbRides)
6. Commute Connections (program of the Atlanta Regional Commission)
7. Commuter Club TMA
8. Hartsfield Area TMA (HATMA)
9. Midtown Transportation Solutions TMA (MTS)
10. Perimeter Transportation Coalition TMA (PTC)
11. State Employee Commuters Assistance Program (SECAP)

Other organizations and service providers who are not formal signatories to the Atlanta TDM Framework, such as regional vanpool and transit providers, are key to the success of the Atlanta TDM Framework.

In December 1999 GDOT awarded the Center for Transportation and the Environment (CTE, formerly Southern Coalition for Advanced Transportation) a contract to conduct a research and measurement program to provide strategic direction and evaluate the effectiveness of these three major program areas in reducing traffic congestion and improving air quality. The goals of the program were:

(1) To enhance the media campaign program area;

(2) To evaluate the qualitative and quantitative impacts of each of the three program areas (media campaign, employer and individual outreach services, and regional supporting programs and services); and

[4] Thirteen (13) county non-attainment area includes Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Paulding, and Rockdale counties.

(3) To establish a consistent evaluation protocol and reporting procedure across the program areas.

The research and measurement program is a phased program. This report, *FY2002 Atlanta TDM Framework Final Report*, presents the findings for the third year of the program (Phase Three, FY2002). Findings from the first and second year of the program (Phase One, FY2000 and Phase Two, FY2001) can be found in previous reports submitted to GDOT.

Phase One

During Phase One of the research and measurement program the measurement team provided strategic direction and a preliminary effectiveness evaluation to the media campaign; inventoried evaluation tools available to assess the impacts of the Atlanta TDM Framework program; and conducted a preliminary evaluation on reductions in vehicle miles traveled for federal fiscal year 2000 (FY2000).

Phase Two

Phase Two of the research and measurement program involved more focused strategic direction to the media campaign and employer and individual outreach programs, as well as an enhanced evaluation of the Atlanta TDM Framework and supporting programs for federal fiscal year 2001 (FY2001). An advisory panel of national experts joined the measurement team to help develop a more inclusive and more rigorous evaluation methodology. Phase Two also included a national review of cost-effective TDM strategies and a review of funding investments for seven TDM and clean air programs across the country.

The measurement team developed two separate evaluation methodologies as part of the enhanced evaluation of the Atlanta TDM Framework during Phase Two—a bottom-up approach and a top-down approach. The "bottom-up" approach refers to assembling alternative mode related participation data from the Atlanta TDM Framework and then adding up their travel and emission reductions. Awareness, attitudes, and participation performance measures also are included in the bottom-up approach. To the extent possible, the measurement team incorporated the bottom-up methodology into the FY2001 evaluation. The FY2001 evaluation provided a more inclusive evaluation than FY2000, but was still conservative as it included only those programs and services the measurement team could validate with established data sources.

The "top-down" approach is the methodology developed to evaluate the Atlanta 13-county nonattainment areas fulfillment of the 2004 vehicle miles traveled (VMT) and emission reduction goals established in the State Implementation Plan (SIP) for Voluntary Mobile Source Emission Reduction Programs (VMEP). VMEPs are programs that encourage commuters and other travelers to voluntarily use alternative modes of transportation for their travel. The Air Quality Branch of the Georgia Department of Natural Resources, Environmental Protection Division (EPD) estimated that 1.5% of the emission reductions needed in the SIP for the Atlanta region for 2004, the attainment year, would come from voluntary programs[5]. This represented a reduction of 4.28 tons per day (tpd) of NO_x and 6.51 tpd of VOC, to be achieved by reducing 4.4 million miles of travel.

A primary work product of Phase Two was the Atlanta TDM Framework Evaluation Plan. The evaluation plan combined the primary work elements of Phase One and Phase Two into a single, structured evaluation program.

[5] USEPA allows up to three percent of the necessary emission reduction amount to be achieved through Voluntary Mobile Source Emission Reduction Programs (VMEP).

Phase Three

Implementation and refinement of the Atlanta TDM Framework Evaluation Plan was the primary motivation for work completed in the third year of the research and measurement program (Phase Three, FY2002). The evaluation plan included implementation of seven data collection activities to determine overall participation and the travel and emission reductions for the Atlanta TDM Framework ("bottom-up" approach). The findings from these data collection activities are presented in this report.

The measurement team developed an additional data collection activity, the regional switcher survey, early in Phase Three to assess fulfillment of the 2004 SIP target for VMEPs. The survey, conducted two years before the actual SIP attainment year, provides an early indication of the region's likely ability to meet the SIP target for VMEPs in 2004. It also serves as a test to determine if a regional survey of this nature can be used to assess VMT and emission reductions from VMEPs.

The switcher survey showed that nearly 270,000 commuters were placed in alternative commute modes over the past five years. The total daily travel reductions from these commuters equal 207,400 vehicle trips and 4.1 million vehicle miles. The daily emission reductions equal 4.97 tpd of NO_x and 5.75 tpd of VOC.

Organization of Report

This report is organized into six chapters, including this research and measurement program overview, which is Chapter 1. Chapter 2 includes a profile of the Atlanta TDM Framework and other contributing activities. The background of the Atlanta TDM Framework evaluation process is presented in Chapter 3. Chapter 4 presents the results of the FY2002 evaluation. Chapter 5 includes a summary of the motivating factors and barriers that prevent commuter and business leader use and adoption of commute alternatives and commute assistance programs. Overall conclusions and recommendations are presented in the last chapter, Chapter 6.

CHAPTER 2 ATLANTA TDM FRAMEWORK PROFILE

INTRODUCTION

The three primary program areas contributing to the Atlanta TDM Framework include the media campaign, employer and individual outreach services, and supporting regional programs and services. These program areas support the following commuting alternatives: carpooling, vanpooling, transit, biking, walking, teleworking, and compressed work week schedules.

The media campaign represents the large-scale marketing arm of the Atlanta TDM Framework. It provides mass outreach and promotion of Atlanta TDM Framework programs and services. Employer outreach services represent the employer sales team for the regional programs and services and the direct contact with individuals and employers. Employer outreach services draw upon supporting regional programs and services for support (e.g., regional ridematching). The organizations associated with these program areas are called Framework partners.

MEDIA CAMPAIGN

Since January 2000, The Clean Air Campaign has been the lead agency for coordinating mass media and public relations for the Atlanta TDM Framework. The Clean Air Campaign uses a number of strategies to administer the media and public relations campaign, including paid radio and print advertising, a website, media placements, speaking engagements and other community outreach, and a specially designed children's education program. These activities and resources provide a clearinghouse of information for the region and help create awareness of the region's traffic congestion and air quality problems, as well as solutions to those problems.

FY2002 Media Campaign Activities

During FY2002, The Clean Air Campaign media campaign focused on the following three messages:

Regional Employers (Commute Option Program)
- Call 1-877-CLEANAIR to learn more about commute option programs
- Visit www.cleanaircampaign.com to learn more about commute option programs

Commuters (Teleworking)
- Talk to your boss about teleworking
- Visit www.cleanaircampaign.com to download tools on how to talk to your boss about teleworking
- Call 1-877-CLEANAIR to obtain tools on how to talk to your boss about teleworking

Commuters (Carpooling)
- Start carpooling
- Call 1-87-RIDEFIND to find a carpool partner who lives and works near you and who shares a similar work schedule
- Visit www.cleanaircampaign.com to sign up on-line for ridematching

Although the target audience was different for each message, the overall audience included regional employers with more than 100 employees and general commuters throughout the metro Atlanta nonattainment area.

Public Relation Activities -The Clean Air Campaign FY2002 public relations activities involved media placements, speaking engagements, community event presentations, press briefings, and an educational program for children.

As shown in Table 1, The Clean Air Campaign was responsible for 215 media placements (e.g., newspaper articles, television or radio news stories) during FY2002, resulting in approximately 33.4 million impressions. The most frequent messages for the media placements, in order of frequency, were contacting The Clean Air Campaign, air quality/smog alerts notification, calling 1-87-RIDEFIND for carpool information, employer programs information, vanpooling information, and teleworking information. About 63% (136) of the media placements occurred during the 2002 smog season (May – September). The media placements also mentioned a total of 29 employer case studies or examples.

TABLE 1: CLEAN AIR CAMPAIGN MEDIA PLACEMENT FY2002

Month	Media Placements					Impressions[1]
	TV	Print	Radio	Web	Total	
October	1	6	5	2	14	2,657,886
November	0	5	0	0	5	125,408
December	0	8	3	1	12	1,259,536
January	2	5	4	0	11	1,524,036
February	1	7	0	2	10	1,201,348
March	0	10	1	4	15	1,983,578
April	0	6	1	5	12	2,223,403
May	0	15	7	3	25	7,369,076
June	3	19	6	6	34	5,110,770
July	3	31	5	8	47	6,241,418
August	1	9	1	3	14	1,783,832
September	0	13	0	3	16	1,950,815
Total	**11**	**134**	**33**	**37**	**215**	**33,431,106**

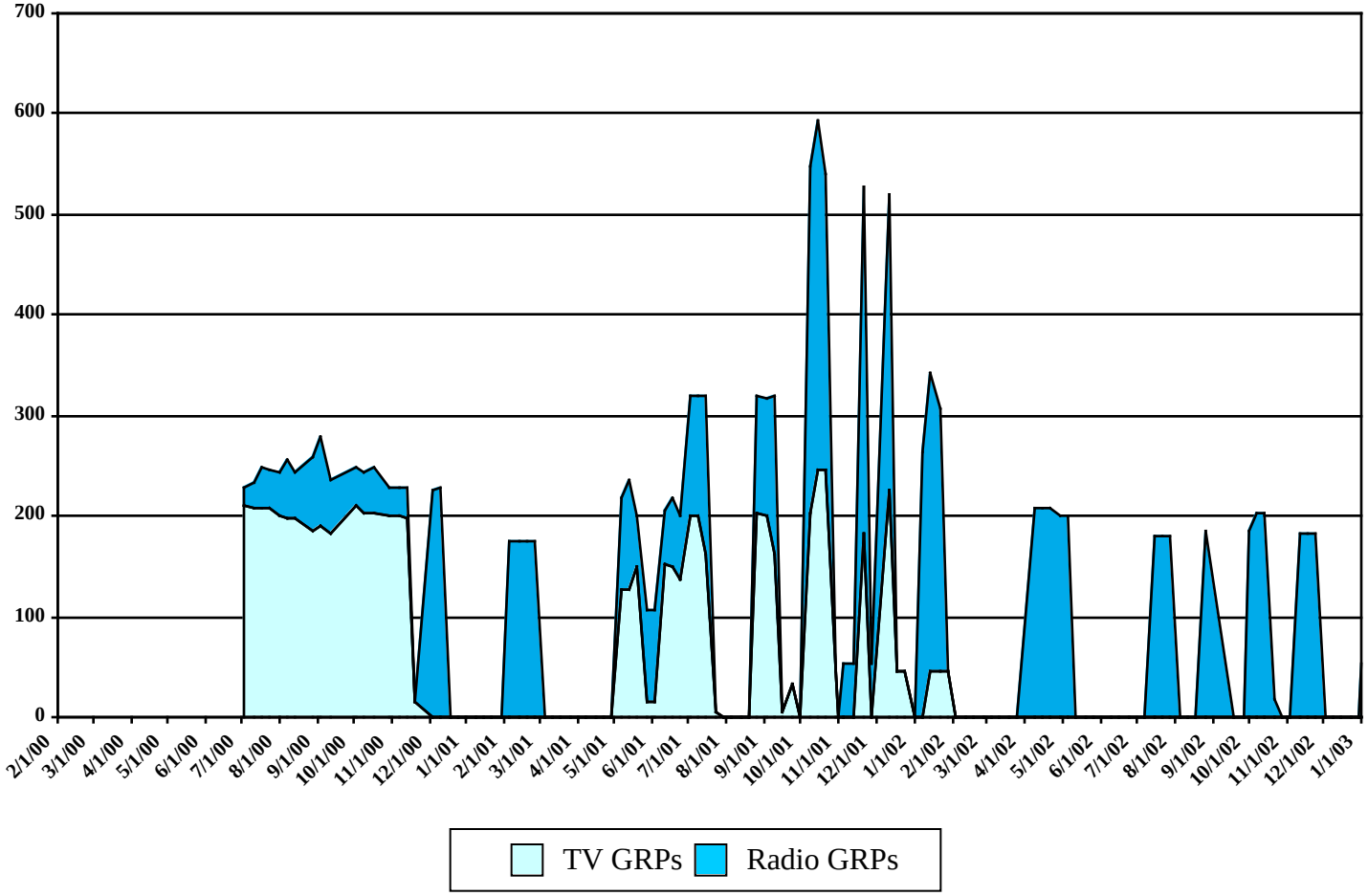
Source: FY2002 Atlanta TDM Framework Performance Measure Final Report

[1]Impressions represent the approximate number of times individuals in the community are exposed to a particular medium. Estimates of publication readers or television viewers or listeners translate to exposure numbers.

The Clean Air Campaign public relations activities also include press briefings and appearances by The Clean Air Campaign's BAIR (Better AIR Bear). In FY2002, The Clean Air Campaign conducted 17 press briefings. BAIR made 58 school appearances (reaching an audience of 9,398 people) and 21 community appearances (reaching an audience of 35,557) during FY2002.

Mass Advertising – Figure 1 shows The Clean Air Campaign paid television, radio, and cable advertising schedule over the course of FY2002. The total budget for paid media was approximately $1.8 million. The Clean Air Campaign spent the majority of their paid advertising budget on radio advertising ($1.4 million), encouraging commuters to start carpooling and calling 1-87-RIDEFIND or visiting www.cleanaircampaign.com to learn more about ridematching. The heaviest period of carpool radio advertising took place in the March - May time period, with a smaller wave in June, August, and September. The second most prevalent call to action supported by the radio medium encouraged individual commuters to call 1-877-CLEANAIR or visit www.cleanaircampaign.com to learn more about commute option programs.

FIGURE 1: CLEAN AIR CAMPAIGN MEDIA CAMPAIGN ADVERTISING SCHEDULE



Source: FY2002 Atlanta TDM Framework Partner Performance Measure Final Report
Note: Advertising weight is measured in terms of gross rating points (GRPs). GRPs are a function of the audience reach within the community multiplied by the frequency of the message delivered. Reach measures the number of different people who are exposed to a message. Frequency measures the number of times these people are exposed to a message.

EMPLOYER AND INDIVIDUAL OUTREACH SERVICES

Local area Transportation Management Associations (TMAs) and The Clean Air Campaign Public and Private Sector Employer Outreach Programs (CAC Public and CAC Private) serve the Atlanta TDM Framework by providing employer and individual outreach services to defined geographic territories across the region.

The services offered by these organizations differ not only by territory, but also by employment base, infrastructure availability (transit access), age and maturity of program, goals for the organization, and member or community participation. Staffing levels and annual budgets also vary by service area.

Currently, eight TMAs provide employer and individual outreach to the region's densely populated employment centers. CAC Private provides employer and individual outreach throughout the metro-Atlanta region in areas outside the eight defined TMA territories. CAC Private also assists outreach service providers in the TMA services areas with program enhancements on an as needed basis and in coordination with the respective TMA.

CAC Public provides employer and individual outreach to the public sector at the federal, state, and local level. The State Employee Commuters Assistance Program (SECAP) provides subsidies for transit and vanpool fares, along with incentives for carpooling, to state employees. The Georgia Environmental Protection Division (EPD) oversees the SECAP program, and the Georgia Building Authority (GBA) administers it.

A wide variety of programs are offered by these organizations, including ridesharing and transit subsidies, ridematching for carpools and vanpools, vanpool formation assistance and subsidies, guaranteed ride home, effective bicycling instruction and discounts, smog alert notifications, transportation management plan development, community and local shuttles, and teleworking and alternative work schedule training and assistance.

Many of these organizations also focus on broader community efforts that serve regional or local planning goals for their service areas. Several are involved in neighborhood or corridor planning, street and traffic signalization, and livable center initiatives. These activities complement regional planning initiatives and contribute to transportation system efficiency.

FY2002 Employer and Individual Outreach Activities

TMAs, CAC Public, and CAC Private are involved in many activities to inform individual commuters, employers, and property managers of TDM programs and services available to them and to encourage interest in these programs. Table 2 presents the results of key performance measures these Framework partners tracked at the request of the measurement team to document direct employer and individual outreach activity.

As shown in Table 2, Framework partners held a total of 1,561employer or property manager meetings to encourage participation in commute assistance programs during FY2002 (an average of 130 per month). Framework partners held 968 commuter fairs or promotional events during FY2002, an average of 81 per month. Commuter fairs or promotional events are typically held to offer opportunities for people to learn more about commute alternatives and commute assistance programs.

TABLE 2: FY2002 EMPLOYER AND INDIVIDUAL OUTREACH ACTIVITY

Outreach Performance Measures[1]	Total Outreach
Employer or Property Manager Meetings	1,561
Commuter Fairs or Promotional Events	968
Number of Contacts to Clients[2]	18,467
Number of Contacts to Generate New Clients[2]	3,671

Source: FY2002 Atlanta TDM Framework Performance Measure Final Report
[1]Outreach performance measures are not inclusive of all activities employer or individual outreach service providers undertake to increase awareness or encourage alternative mode use.
[2]Represents data reported by CAC Public, CAC Private, CAP/Downtown TMA, and CobbRides for the entire fiscal year and one month of data reported by HATMA.

Four Framework partners—CAC Public, CAC Private, CAP/Downtown TMA, and CobbRides—tracked contacts to existing or potential new clients. The contacts may include informational pieces, typically distributed via email or by letter or telephone, to encourage participation in commute alternatives and commute assistance programs. HATMA reported data for this measure one month during FY2002. In total, these Framework partners made 18,467 outbound contacts to existing clients (an average of 1,539 each month) and 3,671 outbound contacts to generate new clients during FY2002 (an average of 306 each month).

Many Framework partners also use newspapers and trade publications to promote awareness of commute alternatives and commute assistance programs. BATMA, Commuter Club, CobbRides, and HATMA reported a total of 28 trade publication placements and 53 newspaper placements during FY2002.

SUPPORTING REGIONAL PROGRAMS AND SERVICES

The regional rideshare database and guaranteed ride home (GRH) program, regional financial incentive programs, and regional vanpool and transit providers supply many of the programs that Framework partners draw upon for support.

Regional Rideshare Database and Guaranteed Ride Home Program

Commute Connections, a program of the Atlanta Regional Commission, provides regional employer and individual outreach support to the Atlanta TDM Framework through its regional rideshare and GRH programs. The regional rideshare database encourages and assists commuters in forming ridesharing arrangements by matching them according to where they live and work and providing them with lists of potential carpool and vanpool partners. The GRH program provides a free ride home in emergency situations for commuters who travel to work by a mode other than driving alone. The Clean Air Campaign and TMAs offer information and assistance to commuters and other travelers interested in regional ridematching and the GRH program. Commute Connections also provides a mapping service to employer outreach programs to assist them in marketing commute options to employers.

The regional rideshare program also provides a centralized database of commuters interested in trying alternative modes. Working with Commute Connections, The Clean Air Campaign and TMAs can directly market the programs and services supporting the Atlanta TDM Framework to database registrants.

Regional Financial Incentive Programs

During FY2002, The Clean Air Campaign administered a regional vanpool incentive program, which pays 80% of the operating costs for a new, qualified vanpool for the first three months of operation; then 50% of the costs for another three months. To qualify, employers must commit to pay 20% of the vanpool operating costs for a full year. In addition, The Clean Air Campaign launched its first regional commute assistance program, the Cash for Commuters program, during the first month of FY2003 (October 2002). Commuters who commit to trying transit, carpooling, teleworking, cycling or walking to or from work—a minimum of 15 times over three months—can earn up to $180 over a 90-day period, or three dollars for each day the commuter used an alternative. More than 2,550 Atlanta motorists enrolled in the program. Approximately 1,800 completed the program, with The Clean Air Campaign paying out more than $255,800 in incentives. A survey conducted in July 2003 found that the regional incentive program was effective in encouraging commuters to begin and continue using commute alternatives. Approximately 70% of the registrants continued to use their primary commute alternative three to six months after their program enrollment period ended.

The Clean Air Campaign launched its second Cash for Commuters program during smog season of FY2003. The program runs through December 2003. The Clean Air Campaign also launched an employer based regional incentive program, the Clean Air Challenge. The Clean Air Challenge is a three-month competition open to metro Atlanta employers and property managers. The employer or property manager that demonstrates the highest percentage of non-single occupancy vehicle trips by employees or tenants wins the competition. More than 80 employers took part in the competition.

The CAP/Downtown TMA, MTS, and BATMA, in conjunction with The Clean Air Campaign, launched a new regional incentive program in May 2003 aimed at increasing carpool ridership. Eligible carpools receive $25 to $75 gas cards each month, depending on the size of their carpool. The program runs through December 2003. As of June 2003, over 300 individuals were participating in this program.

The Metropolitan Atlanta Rapid Transit Authority (MARTA) administers the MARTA Partnership Program, an employer-based discount transit pass program that began in the early 1990s. To support employee transit ridership, this program offers volume discounts to employers who purchase MARTA fares for employees. Framework partners assist the MARTA Partnership Program by generating employer interest in the program and by helping MARTA market the program to employers in the region.

Early in FY2002 MARTA reduced the level of discount for the MARTA Partnership Program from an 18%-20% discount to a 6%-8% discount. The TMAs joined together to coordinate distribution of transit passes through one TMA in order to get the maximum 8% discount for all participating TMAs. Overall, the reduced discount resulted in decreased monthly transit pass sales for at least one TMA, while all other TMAs experienced an increase in transit pass sales. The increased discount transit pass sales by many Framework partners, including recently formed TMAs in the Midtown and Downtown areas, helped to offset decreased sales for the MARTA Partnership Program as a whole.

TMAs, The Clean Air Campaign, and SECAP also administer financial incentive programs in their respective service areas. TMAs and CAC Private offer a wide variety of incentives, including “try it” days, commuter rewards programs, free gas cards for ridesharing, and full or partial subsidies to participate in formal vanpool programs. As mentioned previously, SECAP provides subsidies for transit and vanpool fares, along with incentives for carpooling, to state employees.

Vanpool and Transit Providers

Vanpool - The primary vanpool operators in the region—Douglas County Rideshare, Georgia Building Authority Vanpool, and MetroVanPool—provide employer- and individual-sponsored vanpool services to the Atlanta TDM Framework.

Douglas County Rideshare provides access to vanpools for Douglas County residents and has been in operation since 1986. Douglas County Ridshare operates 20 vanpools originating at various locations throughout the Douglas County with the majority of the destinations being in either midtown or downtown Atlanta. Other vanpools serve the Emory/Decatur area as well as Marietta, the Glenlake area off Georgia 400, and Stockbridge.

The Georgia Building Authority (GBA) vanpool program began operating in 1980 and offers state employees access to vanpools. GBA operates 40 vans, all of which travel to the 13-county nonattainment area. The majority of the vanpools provide access to the Capitol Hill area and other locations in downtown Atlanta. Other vanpools serve state offices in Conyers and Decatur. Twenty-two vans originate within the nonattainment area, while the remaining vans originate in counties outside this area.

MetroVanPool is the largest private provider of commuter vanpool transportation services. MetroVanPool operates approximately 125 vanpools in the Atlanta region. The majority of the vanpools originate in the nonattainment area and all travel to destinations within this area, predominately in the downtown Atlanta and Cumberland Galleria areas.

Framework partners assist vanpool operators by submitting prospective vanpool rider applications to the regional rideshare database, by marketing vanpool programs to their employer partners, and by coordinating parking for multiple employer vanpools. In turn, vanpool operators provide internal ridematching services, emergency ride home services, administrative support, insurance, vehicles, and vehicle maintenance. Vanpool operators also provide outreach services independently and in cooperation with The Clean Air Campaign and TMAs.

Commute Connections assists vanpool operators and vendors by offering ridematching services and offering GRH to employers and individuals registered in the regional rideshare database and participating in alternative commute modes. Framework partners promote GRH as an incentive to encourage commuters and employers to participate in vanpooling programs. Commute Connections also assists in vanpool formation by providing cluster and route analysis for vanpool operators, vendors, and Framework partners.

Transit – The metro Atlanta region has four primary transit service providers. MARTA is the largest transit service provider in the Atlanta region. MARTA operates both heavy-rail and bus service and serves two counties, DeKalb and Fulton. This service area includes the City of Atlanta. There are 38 rail stations in the MARTA system and 375 bus and van routes. MARTA recently began operating a one-year pilot program providing express bus service and limited stop bus service on four routes. MARTA maintains 28 park and ride lots providing access to the system for transit patrons.

Cobb Community Transit (CCT) operates express bus routes, local bus routes, and paratransit service for the residents of Cobb County. CCT offers riders two express routes providing service from the county into the City of Atlanta. CCT also operates 13 local bus routes. CCT maintains three park and ride lots providing access to transit and operates several routes accessing MARTA bus stops and transit stations.

Clayton County, in coordination with the Georgia Regional Transportation Authority and MARTA, introduced transit service with the C-Tran bus service in October 2001. C-Tran provides local transit

service for the residents of Clayton County. C-Tran operates three routes, with two of the routes originating from Hartsfield Atlanta International Airport.

Gwinnett County initiated express bus service from its outer suburbs to the Atlanta area in November 2001. Gwinnett County Transit (GCT) operates both express bus routes and local bus routes serving residents of Gwinnett County. There are six GCT express bus routes operating between the county and downtown Atlanta, with many of the routes feeding into the MARTA system at various transit stations. GCT operates five local bus routes. One of the routes provides local service to the Doraville MARTA station, the northern most station of MARTA's northeast line. GCT maintains three park and ride lots to assist patrons with access to the system.

OTHER SERVICES AND ACTIVITIES

Other services and activities exist outside the formal programs of the Atlanta TDM Framework program that affect TDM growth and alternative commute awareness and use in the metro Atlanta region.

Construction of High Occupancy Vehicle (HOV) lanes on metro Atlanta's major interstate systems continues, with the most recent expansion opening in early November 2001 on Interstate 85, outside Interstate 285.

Smog alerts provided by Georgia EPD and scientists from the Georgia Institute of Technology and distributed by The Clean Air Campaign have been a growing service used by radio and television stations to promote local air quality. Local print media also have been active in covering transportation and air quality issues, including the impacts and problems those issues create and the potential solutions available. Electronic highway signs managed by GDOT have promoted both smog alerts and commuting options.

Exogenous factors, such as the price of gas, highway construction, and special events, also may create an atmosphere that encourages or discourages alternative commute activity. For example, the metro Atlanta region experienced relatively mild temperatures over the summer of 2002, resulting in a lower number of smog alert days.

CHAPTER 3 BACKGROUND ON ATLANTA TDM FRAMEWORK EVALUATION PROCESS

INTRODUCTION

The FY2002 evaluation is the third annual Atlanta TDM Framework evaluation. In FY2000, the measurement team reported general performance data and travel and emission reductions for three alternative modes–carpool, vanpool, and transit. For that fiscal year, the regional rideshare database, partner program reports, and employer self-reports were the primary data sources to assess participation and travel and emission reductions.

The measurement team expanded upon the FY2000 evaluation in FY2001 by developing a more inclusive and rigorous approach to measure the impacts of programs and services supporting alternative mode activity throughout the region. An advisory panel joined the measurement team in April 2001 and played a critical role in expanding the FY2001 evaluation process.

The FY2001 evaluation expansion included adding two more commute alternatives—telework and compressed work week schedules—to the Atlanta TDM Framework emission reduction estimate and incorporating transit and vanpool operator data and self-reported federal employer travel data into the overall estimate. In addition, the measurement team developed the performance measure "continuum", an expanded approach to evaluate Atlanta TDM Framework performance. Lastly, to increase the validity of the travel and emission reductions, the measurement team estimated the number of commuters "placed" in alternative modes and the number of vehicle trips reduced as a result. Due to schedule and budget constraints, the measurement team relied on existing data sources to estimate the number of commuters placed in alternative modes and the associated number of vehicle trips reduced in the FY2001 evaluation.

The FY2002 evaluation follows the FY2001 evaluation expansion. However, instead of using existing data sources to estimate commuter placements and the number of vehicle trips reduced, the measurement team conducted new data collection activities to collect this data more accurately and more inclusively.

FY2002 DATA COLLECTION ACTIVITIES

The data sources used to measure the performance of the programs and services contributing to the Atlanta TDM Framework during the FY2002 evaluation year are presented below. The detailed findings for each survey are presented in Appendix B.

June 2000 – December 2002 Regional Transportation Surveys

Regional transportation surveys assess general trends in awareness, attitudes, and travel patterns of a representative sample of metro Atlanta residents 18 or older. Respondents are asked about awareness and attitudes regarding recent transportation and air quality advertising activities. Respondents are also asked about their awareness, interaction, and contact with regional programs and services available to help with commuting and employer-sponsored commute assistance programs. As shown in Table 3, the measurement team has conducted seven regional transportation surveys, ranging in sample sizes of 600 to 1,500, over the course of the three-year research and measurement program. The 95% confidence level for the overall sample for each survey is also listed in Table 3.

TABLE 3: REGIONAL TRANSPORTATION SURVEYS SCHEDULE

Survey Month/Year	Sample Size	95% Confidence Level
March 2000	758	+/-3.6%
June 2000	603	+/- 4.0%
September 2000	600	+/- 4.0%
November 2000	600	+/- 4.0%
May 2001	1,501	+/- 2.5%
December 2001	1,000	+/-3.1%
December 2002	1,500	+/-2.5%

Many of the questions in the regional travel surveys include smaller sub-samples from the survey, which result in wider statistical variances at the 95% confidence level. Appendix C provides the variation at the 95% confidence level for the survey questions and responses presented in this report.

FY2002 Atlanta TDM Framework Performance Measure Final Report

The measurement team developed a uniform reporting method in FY2001 to standardize the performance measure data collected for the Atlanta TDM Framework. Framework partners began reporting performance measure data on a quarterly basis in FY2002. The FY2002 Atlanta TDM Framework Performance Measure Final Report summarizes the data reported during FY2002. The measures assess commuter, employer, and property manager participation in programs and services that facilitate alternative mode use.

October 2002 Pilot Employer Partner Employee Travel Survey

The employer partner employee travel survey assesses the commute changes and travel behaviors of commuters with access to varying levels of commute assistance offered by their employer. The survey provides an estimate of travel and emission reductions for commuters using commute alternatives, including commuters who made commute changes during the FY2002 evaluation period.

The survey gathers information on commuters working for employers who partner with organizations, such as the local TMAs and The Clean Air Campaign, to implement worksite commute assistance programs. During FY2002, 62 partner employers participated in the survey. A total of 11,492 employees completed the survey, an average response rate of 30% across all participating employers.

Participating employers (referred to as Employer Participants) administered the FY2002 survey between late September and early November 2002. Employer Participants distributed either hard copies of the survey to employees or notified them about the electronic (internet) version of the survey. The sampling plan involved surveying a representative sample of Employer Participants within five designated employer outreach service areas. Representation was based on four sampling criteria—employer size, employer type, level of urbanization/transit access, and level of commute assistance services—offered by Employer Participants.

October 2002 Regional Rideshare Placement Survey

The regional rideshare placement survey assesses the commute changes and travel behaviors of commuters requesting rideshare matching or guaranteed ride home services from Commute Connections. The survey provides an estimate of travel and emission reductions for commuters making commute changes during FY2002 and commuters maintaining commute changes made before FY2002.

The survey sample included 1,375 randomly selected rideshare database registrants. The primary sample—recent applicants—consisted of 1,000 registrants who entered the database or received assistance from Commute Connections during the FY2002 evaluation period. The primary purpose for surveying this population was to determine the percentage of database registrants who received assistance and either made commute changes or retained use of alternative modes during the FY2002 evaluation period. This sample represents a margin of error +/- 2.9 percentage points in 95 out of 100 cases.

An additional 375 randomly selected database registrants participated in a companion survey. The sample for this survey consisted of database registrants who entered the database prior to the FY2002 evaluation period (prior to October 1, 2001). The registrants had not received assistance from Commute Connections during the evaluation period. The primary purpose for surveying these applicants was to estimate rideshare and other alternative mode longevity. This sample represents a confidence level of +/- 5% in 95 out of 100 cases.

October 2001 - October 2002 Business Leader Survey

Regional business leader surveys gauge the business community's awareness and attitudes about commute alternatives and commute assistance programs and the current level of commute assistance business leaders offer to employees. Approximately 300 business leaders are asked to participate in the survey. The measurement team conducted the first business leader survey in October 2001 and the second survey in October 2002. The samples for these surveys represent a confidence level of +/-5.7% in 95 out of 100 cases.

November 2002 Vanpool Rider Survey

The vanpool rider survey provides an estimate of the travel and emission reductions for vanpool drivers and riders served by Douglas County Rideshare, Georgia Building Authority, and MetroVanPool. The survey also examines the role incentives play in a vanpool driver or rider's decision to vanpool. A total of 190 vanpools—representing approximately 1,864 vanpool riders—received the self-administered survey in mid November 2002. A total of 818 vanpool riders returned a completed survey, a response rate of about 44%. This sample represents a confidence level of +/- 2.6% in 95 out of 100 cases.

February 2003 Discount Transit Pass User Survey

The discount transit pass user survey provides an estimate of the travel and emission reductions from discount transit pass use for MARTA, Cobb Community Transit, and Gwinnett County Transit. The survey also examines the role incentives play in a commuter's decision to use transit. A stratified sample of discount monthly transit pass recipients participated in the self-administered survey. The survey, distributed with transit passes for the month of February 2003, included a sample of 13,881 discount transit pass recipients from 87 employers. A total 3,440 transit pass recipients returned completed surveys, a response rate of about 24%. This sample represents a confidence level of +/- 1.6% in 95 out of 100 cases.

November 2002 Regional Switcher Survey

The regional switcher survey assesses the percentage of commuters in the 13-county Atlanta nonattainment area who have made a commute changes. In 2002, the focus of the survey was on area residents who had made a commute change to an alternative mode within the past 12 years that reduced their number of weekly commute trips. The measurement team asked these commuters, referred to as switchers, more detailed questions about their commute changes in order to estimate travel and emission reductions and assess attainment of the VMEP target in the SIP. The

measurement team analyzed the survey findings for three separate time period: 12-year, 5-year, and 2-year.

The measurement team decided a minimum sample size of 400 switchers would provide a reasonable level of statistical accuracy to estimate the travel and emission reductions for regional commute changes. The confidence level for these 400 switchers is +/- 4.9% in 95 out of 100 cases (95% confidence level). The full switcher survey report is detailed in a separate report.

CHAPTER 4 FY2002 ATLANTA TDM EVALUATION

INTRODUCTION

Chapter 4 documents Atlanta TDM Framework activities within the context of performance measure continuum described below:

- Increase Awareness (Chapter 4-A)
- Change Attitudes (Chapter 4-B)
- Participation (Chapter 4-C)
- Utilization (Chapter 4-D)
- Travel and Emission Reductions (Chapter 4-E)

PERFORMANCE MEASURE CONTINUUM

The performance measure "continuum" represents the range of impacts achieved by the Atlanta TDM Framework. This continuum includes performance measures that cover a **progression** of desired behavioral changes. At the far end of the continuum are the travel/emission impacts, the ultimate desired outcome of the Atlanta TDM Framework. Preceding these impacts (and at the beginning of the continuum) are other "precursor" behavioral changes commuters might make before permanently adopting a commute alternative.

The continuum is structured to reflect the relationships of the various programs and services supporting the Atlanta TDM Framework and how each contributes to the ultimate goal of generating travel and emission reductions. A summary of the performance measures and examples of how the three Atlanta TDM Framework program areas contribute to the continuum is presented below. A more detailed description of the performance measure continuum is presented in Appendix A.

Summary of Performance Measures

Awareness refers to an individual's overall knowledge and understanding of the Atlanta TDM Framework and supporting programs and services. It also refers to more concentrated awareness of newly implemented Atlanta TDM Framework programs and services. Measures include awareness of media campaign marketing messages, the problems/issues surrounding the need for commute alternatives, the alternative modes available (solutions), and the commute resources and assistance services provided by Framework partners.

Following closely to awareness are ***Attitudes*** Atlanta residents have about the Atlanta TDM Framework and supporting programs and services. Once awareness is up, program and service managers typically can begin to focus more on regional attitudes about alternative commute programs and services. Key measures include how the region perceives the severity of traffic problems, whether commuters or employers view the use of alternative commute modes as a solution, and whether they personally view themselves as part of the solution by changing commute modes now or in the future. Some attitude changes might appear coincident with an increase in awareness, but other changes might take months or more to occur.

The third performance measure involves Atlanta residents' ***Participation*** in a desired action. Awareness and positive attitudes about improving traffic congestion and air quality are key to participation. Participation measures include, for example, applying for a ridematch or "asking your boss about teleworking". The actions measured may be tracked by surveys and by call volume to an information line or traffic on a website that commuters are directed to call or visit to learn more about commute alternative. The actions measured in this category also will portray the broad range

of activities of employer outreach services, including number of transportation fairs, ridematch applications, vanpools, and the number of employer partners with commute assistance programs.

The final two categories are calculation measures of the ultimate goal—***Utilization and Travel and Emission Reductions.*** The measurement team calculates utilization impacts by determining the population base of a program or service and the number of alternative mode users placed in that program or service. The team estimates travel and emission reductions by measuring the vehicle trips and miles and emissions reduced by the alternative mode "placements" or users.

CHAPTER 4-A INCREASE AWARENESS

INTRODUCTION

In Chapter 4-A, the measurement team examines *increase awareness*, the first step in the performance measure continuum:

- ***Increase awareness***
- Change attitudes
- Encourage program participation/facilitate arrangements
- Encourage alternative mode utilization/maximize alternative mode use
- Generate travel and emission reductions

Increase awareness is defined as the process of educating and informing commuters and employers and property managers about the problems related to driving alone (particularly commuting alone), solutions to the problems, and resources and services available to assist them in making travel choices. While the measures in this category are not directly correlated to travel and emission reductions, they represent critical precursors to placing a commuter in an alternative mode and typically are the first steps an organization takes to generate interest in a commute assistance program.

The FY2002 examination of the Increase Awareness performance measure is separated into two topic areas and is based on the two data sources listed below. A detailed description of the data sources is presented in Chapter 3.

Topic Areas:

- Awareness of the Problems
- Awareness of Solutions

Data Sources:

- June 2000 - December 2002 Regional Transportation Survey
- October 2001 - October 2002 Regional Business Leader Survey

AWARENESS OF THE PROBLEMS (TRAFFIC CONGESTION AND AIR QUALITY)

Seriousness of the Problem

Metro Atlanta residents are aware the region is experiencing problems with traffic congestion and air quality. When asked to rate the seriousness of various issues in Atlanta on a one-to-ten scale, Atlanta residents rank traffic congestion an 8.4 and air quality an 8.5 (where "1" means not at all important or serious and "10" means very important or serious).

Quality of Life Information Recall

When asked about awareness of quality of life issues they saw, read, or heard information about, metro Atlanta residents continue to recall traffic congestion (55% recall) and air quality (45% recall) issues. As shown in Table 4, there has been a substantial increase in recall of traffic congestion related information over the span of the seven regional transportation surveys conducted as part of the research and measurement program. Increases in recall of traffic congestion related information are statistically significant between June 2000 and December 2002.

TABLE 4: QUALITY OF LIFE – METRO ATLANTA RESIDENT INFORMATION RECALL

Regional Transportation Survey Schedule	Information Recall	
	Traffic Congestion	Air Quality
June 2000	23%	46%
September 2000	31%	36%
November 2000	36%	37%
May 2001	32%	57%
December 2001	31%	32%
December 2002	55%	45%

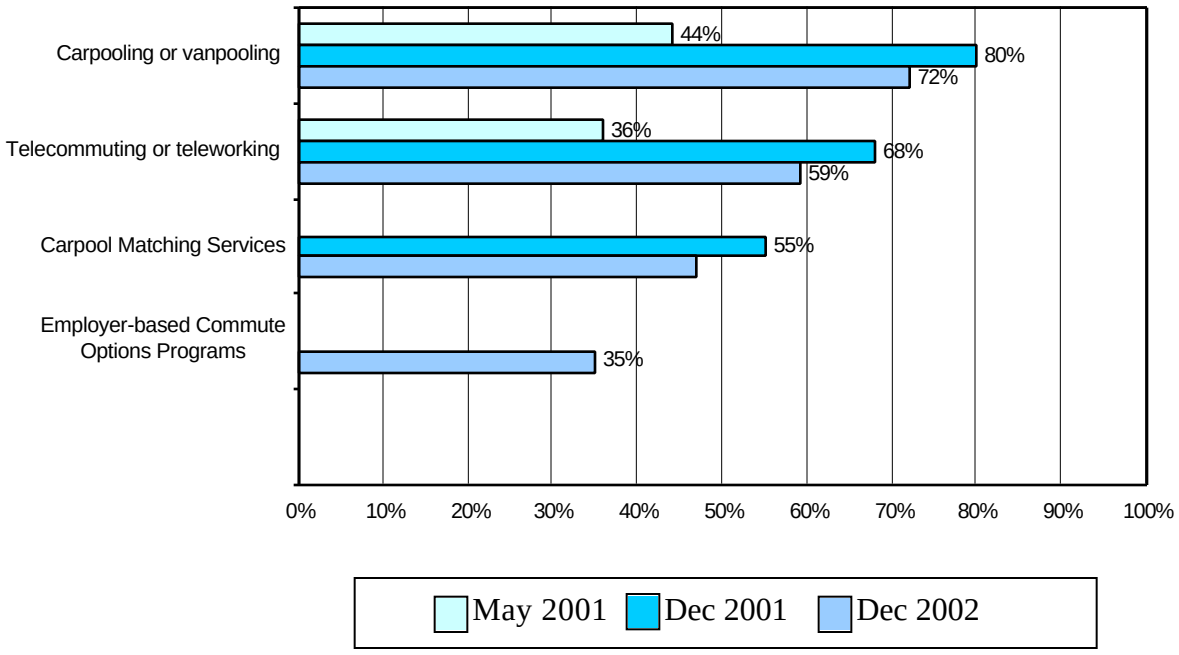
Source: June 2000-December 2002 Regional Transportation Surveys
QUESTION: What was the issue you saw, read, or heard information about?
(Modified in December 2002, from "advertising" recall to "information" recall.)

AWARENESS OF SOLUTIONS

Commute Alternative and Commute Assistance Program Information Recall

As shown in Figure 2, the percentage of metro Atlanta residents who recall seeing, reading, or hearing information about specific commute alternatives and commute assistance programs declined at a statistically significant rate from December 2001 to December 2002. Nonetheless, metro Atlanta resident recall for these commute alternatives and commute assistance programs remains strong.

FIGURE 2: METRO ATLANTA RESIDENT COMMUTE INFORMATION RECALL



Source: May 2001-December 2002 Regional Transportation Surveys
QUESTION: Please tell me if you recall seeing, hearing, or reading information in the past six months about….
(Modified in December 2002, from "advertising" recall to "information" recall.)

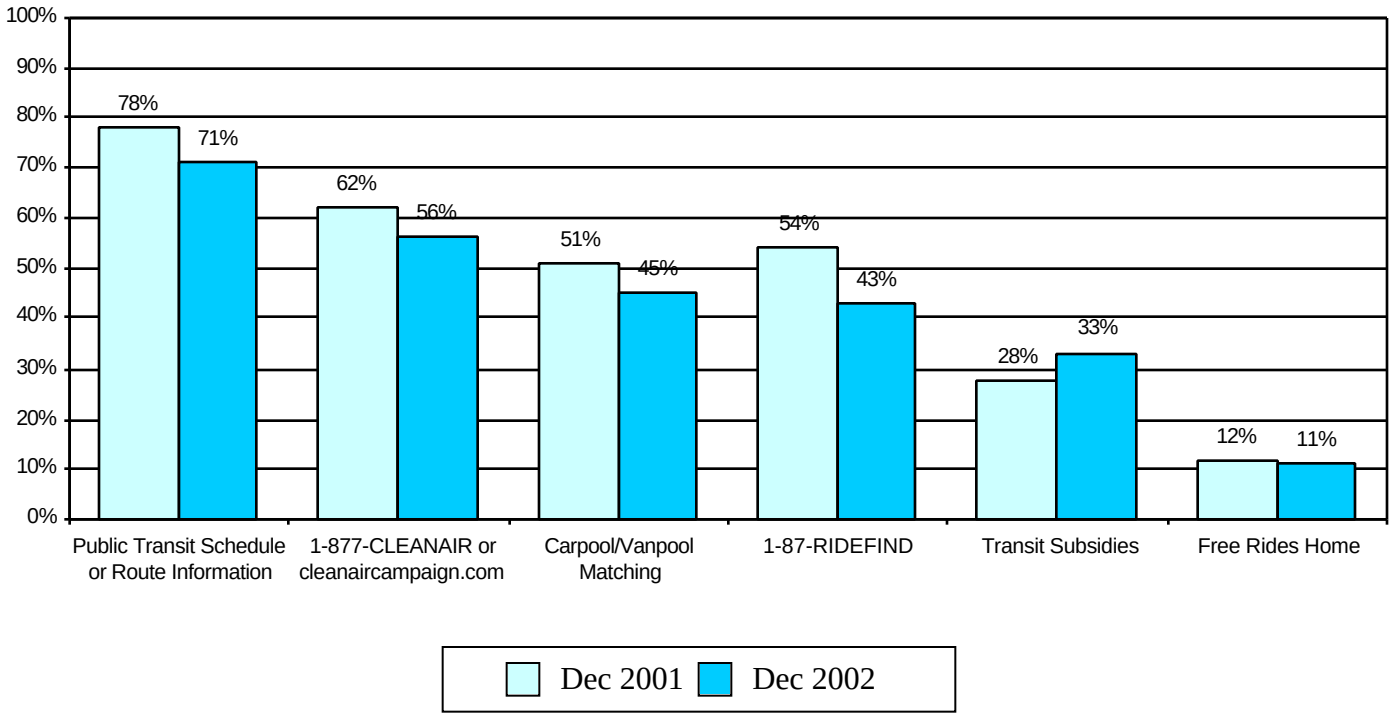
Commute Alternative and Commute Assistance Program Information Sponsor Recall

The majority of metro Atlanta residents who recalled seeing, reading, or hearing information about commute alternatives and commute assistance programs could not recall the information sponsor (i.e., don't know/refused to answer question). The Clean Air Campaign and the Department of Transportation were the most prevalent responses for those who could recall the information sponsor, ranging from 4%-6% for The Clean Air Campaign as the sponsor and 6%-8% for the Department of Transportation as the sponsor. Survey respondents did not recall 1-87-RIDEFIND as an information sponsor, the regional ridesharing and matching service in the metro Atlanta region.

Metro Atlanta Resident Awareness of Regional Commute Assistance Services

The regional transportation survey also polled residents to find out if they had heard about specific regional services available to help them with their commute. As shown in Figure 3, awareness dropped slightly from December 2001 to December 2002 for most services, but overall awareness remains high. The drops in awareness are statistically significant for all services, excluding Free Rides Home. The increase in awareness of transit subsidy services was statistically significant as well.

FIGURE 3: METRO ATLANTA RESIDENT AWARENESS OF REGIONAL COMMUTE ASSISTANCE SERVICES



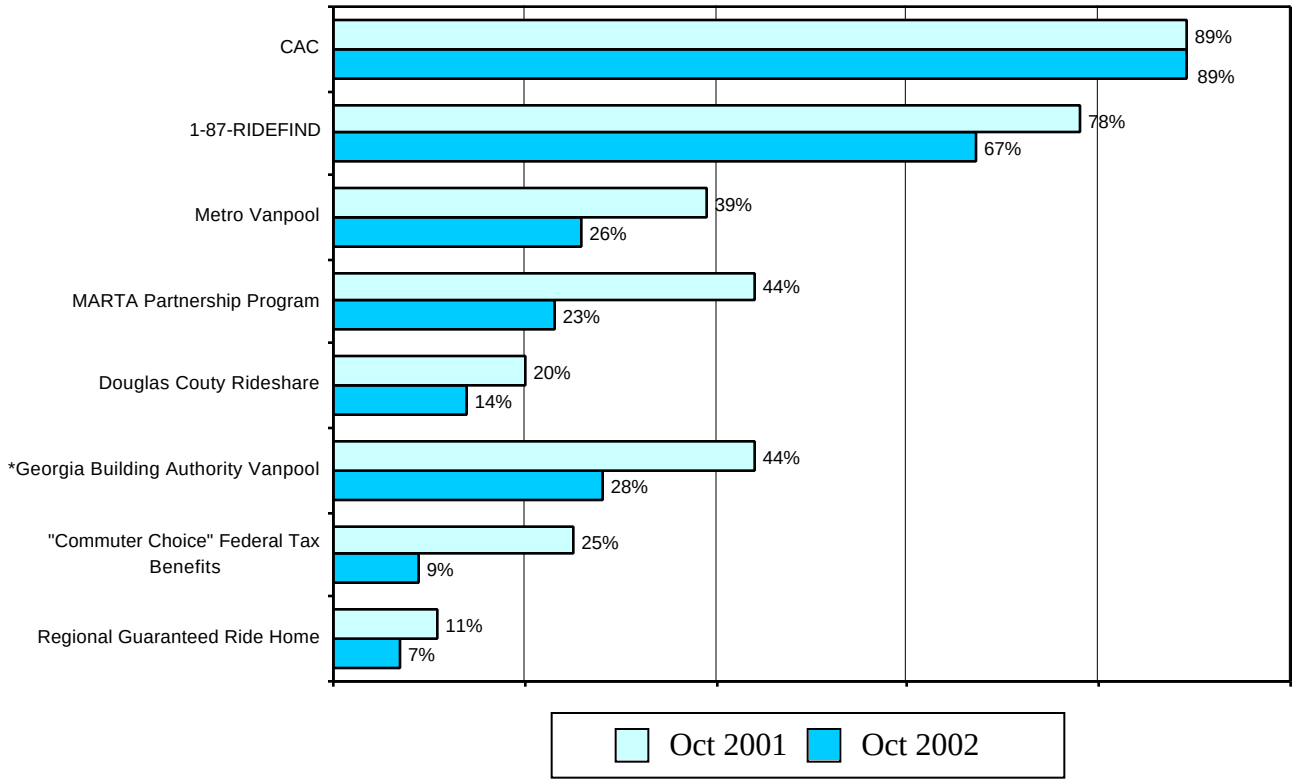
Source: December 2001-December 2002 Regional Transportation Surveys
QUESTION: I'm going to read you a list of programs and services available here in the Atlanta area to help commuters. As I read each one, please tell me if you have heard of the service or not….?

Business Leader Awareness of Regional Commute Assistance Programs

Business leaders' awareness increased or remained steady for many regional commute assistance programs from December 2001 to December 2002. As shown in Figure 4, awareness of The Clean Air Campaign remains steady among local businesses: nearly nine out of ten employers (89%) claim

to have heard of The Clean Air Campaign. Awareness of 1-87-RIDEFIND increased at a statistically significant rate, rising from 67% in 2001 to 78% today. Other statistically significant increases in regional program awareness included the MARTA Partnership (+21%), Georgia Building Authority Vanpool (+16%), and Commuter Choice (+16%). Business leaders who are aware of regional programs are also more likely to offer commute assistance to employees.

FIGURE 4: BUSINESS LEADER AWARENESS OF REGIONAL COMMUTE ASSISTANCE PROGRAMS

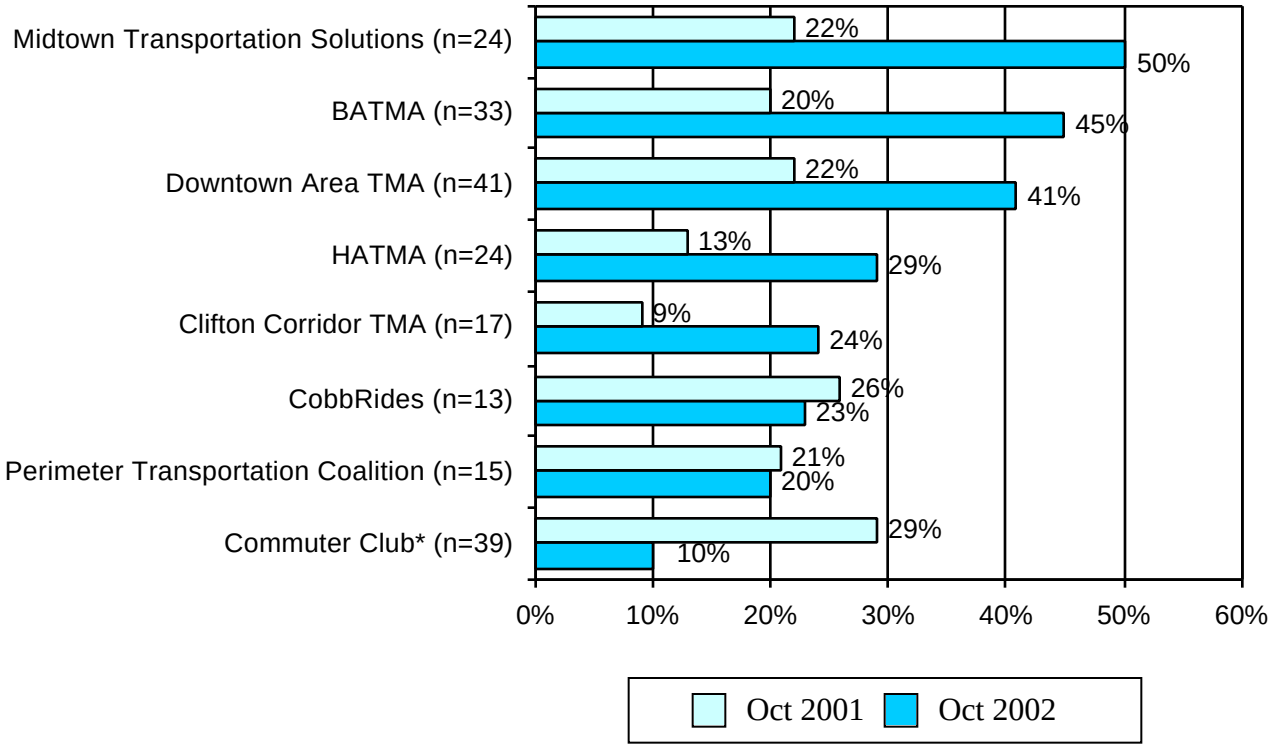


Source: October 2001-October 2002 Regional Business Leader Surveys
QUESTION: Have you heard of…?
*Note: 2001 results were filtered to only include government agencies to be comparable to 2002.

Business Leader Awareness of TMA Organizations

As shown in Figure 5, business leaders' awareness of the TMA servicing their area increased over the past year for almost every TMA. Overall, business leaders' awareness of TMAs increased from 20% in 2001 to 32% in 2002. Business leaders who are aware of their local TMA are also more likely to offer commute assistance to employees. Survey interviews asked business leaders about the TMA servicing their area only, which resulted in small sample sizes for many of the TMAs and wider statistical variance in the accuracy of survey findings.

FIGURE 5: BUSINESS LEADER AWARENESS OF TMA ORGANIZATIONS



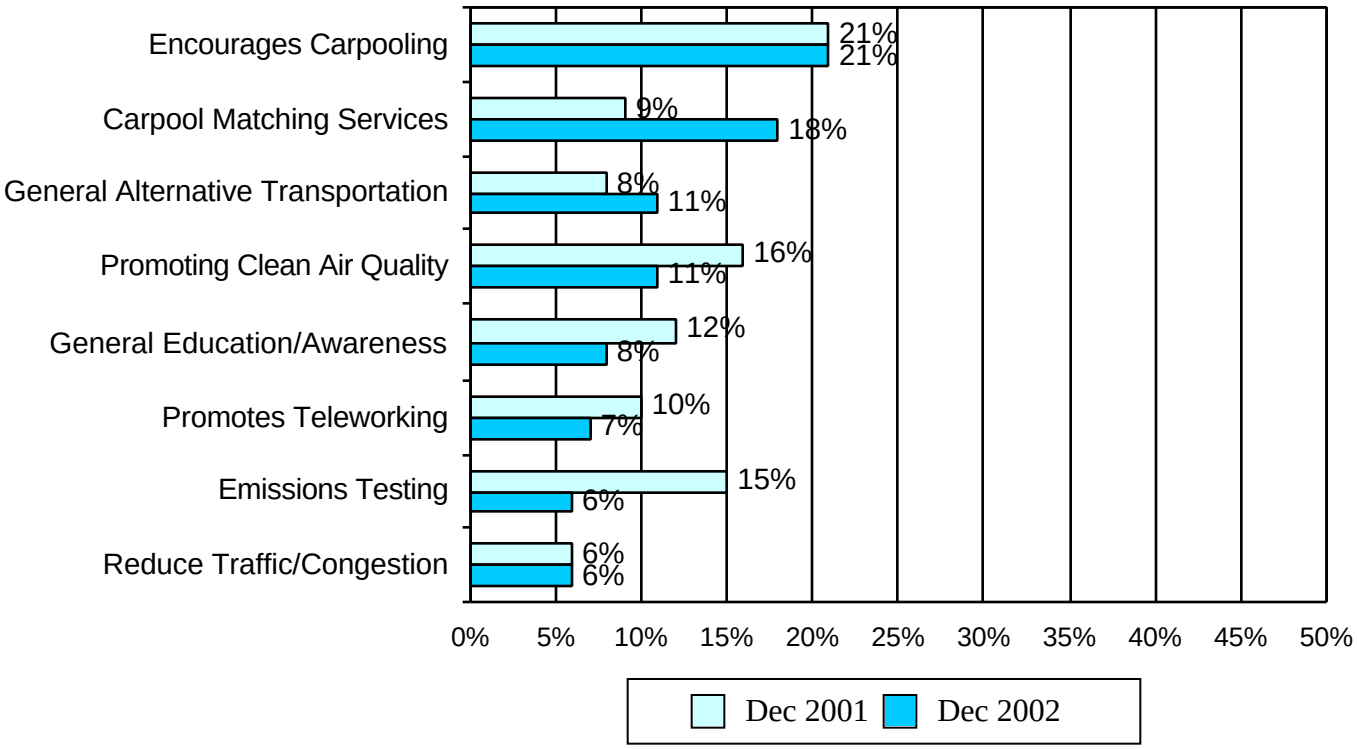
Source: October 2001-October 2002 Regional Business Leader Surveys
QUESTION: Have you heard of…?
*Notes: Commuter Club changed its name from Cumberland Transportation Network to Commuter Club in Spring 2002. Respondents were asked about both.

Metro Atlanta Resident Awareness of The Clean Air Campaign

Metro Atlanta residents experienced statistically significant increases in awareness of The Clean Air Campaign during the past year. As a result, awareness levels are comparable to the May 2001 survey awareness levels (49%). Awareness of The Clean Air Campaign increased from 41% in December 2001 to 50% in December 2002.

In addition, nearly 50% (375 people) of metro Atlanta residents indicating awareness of The Clean Air Campaign in December 2002 associated some form of alternative transportation activity with the organization. In December 2001, 45% of people who were aware of The Clean Air Campaign (41%) associated the organization with some form of alternative transportation activity. As shown in Figure 6, residents continue to describe carpooling encouragement as the largest function associated with The Clean Air Campaign (21% in 2001 and 2002).

FIGURE 6: AWARENESS OF CLEAN AIR CAMPAIGN ACTIVITIES



Source: December 2001- December 2002 Regional Transportation Surveys
QUESTION: Specifically, what services does The Clean Air Campaign provide? What other services does The Clean Air Campaign provide?

AWARENESS SUMMARY

Metro Atlanta residents are aware the region is experiencing problems with traffic congestion and air quality and recall seeing, reading, or hearing information related to these issues. Metro Atlanta residents also show moderate to strong recall on information about specific commute alternatives and commute assistance programs. The majority of metro Atlanta residents cannot recall the sponsor of

the information they saw, read, or heard. However, The Clean Air Campaign and the Department of Transportation were the most prevalent responses for those who could recall the information.

Metro Atlanta residents also showed continued awareness, near 50% or more, for several regional services available to help commuters, including the 1-877-CLEANAIR and 1-87-RIDEFIND information lines. Residents who work in more urbanized areas of the region show the greatest awareness of regional services.

More metro Atlanta residents are also aware of The Clean Air Campaign organization. Nearly half associate The Clean Air Campaign with some form of alternative transportation activity, a slight increase from the previous year. Residents continue to describe carpool encouragement and carpool matching services as primary functions of The Clean Air Campaign.

Overall, business leaders awareness of regional programs increased significantly over the past year. Awareness of The Clean Air Campaign remains steady among local businesses and awareness of 1-87-RIDEFIND has improved significantly. Business leader awareness of TMAs has also increased over the past year.

Further analysis of the regional business leader survey findings reveals the importance of awareness of regional programs and employer and individual outreach services in an employer's decision to offer commute assistance to employees. Employers aware of regional programs and TMAs are more likely to say they offer commute assistance to employees than employees who are not aware of these programs and services.

CHAPTER 4-B CHANGE ATTITUDES

INTRODUCTION

In this chapter, the measurement team examines *change attitudes*, the second step in the performance measure continuum:

- Increase awareness
- ***Change attitudes***
- Encourage program participation/facilitate arrangements
- Encourage alternative mode utilization/maximize alternative mode use
- Generate travel and emission reductions

Change attitudes is defined as the process of encouraging a sense of personal responsibility toward solving problems, promoting more positive attitudes about alternative modes, and creating a desire among regional commuters and employers or property managers to consider/try alternative commute options. While the measures are not directly correlated with travel and emissions impacts, they are critical precursors to placing a commuter in an alternative mode.

The FY2002 examination of the Change Attitude performance measure is separated into four topic areas and is based on the two data sources listed below. A detailed description of the data sources is presented in Chapter 3.

Topic Areas:

- Traffic Congestion and Air Quality Issue Importance/Severity
- Positive Attitudes about Commute Assistance Programs
- Likelihood of Employee Use

Data Sources:

- June 2000 - December 2002 Regional Transportation Survey
- October 2001 - 2002 Regional Business Leader Survey

TRAFFIC CONGESTION AND AIR QUALITY ISSUE IMPORTANCE/SEVERITY

As mentioned in Chapter 4-A, metro Atlanta residents rank traffic congestion an 8.4 and air quality an 8.5 when asked to rate the seriousness of various issues in Atlanta on a one-to-ten scale (where "1" means "not at all important" or serious and "10" means "very important or serious"). Ninety-two percent of business leaders cite traffic and congestion as having the greatest impact on their business operations, while 3% cite air quality as having the greatest impact.

When asked to rate how well the Atlanta metropolitan region has performed addressing traffic and congestion in the region, more than half (57%) of Atlanta business leaders give only a one, two, or three rating on a 10-point scale (where "1" means "terrible, couldn't be worse" and "10" means "terrific, couldn't be better"). Interestingly, when business leaders were asked who is primarily responsible for addressing traffic and congestion, nearly half (46%) believe it is the local government while two-in-ten (19%) believe it is the responsibility of the Georgia Department of Transportation.

POSITIVE ATTITUDES ABOUT COMMUTE ASSISTANCE PROGRAMS

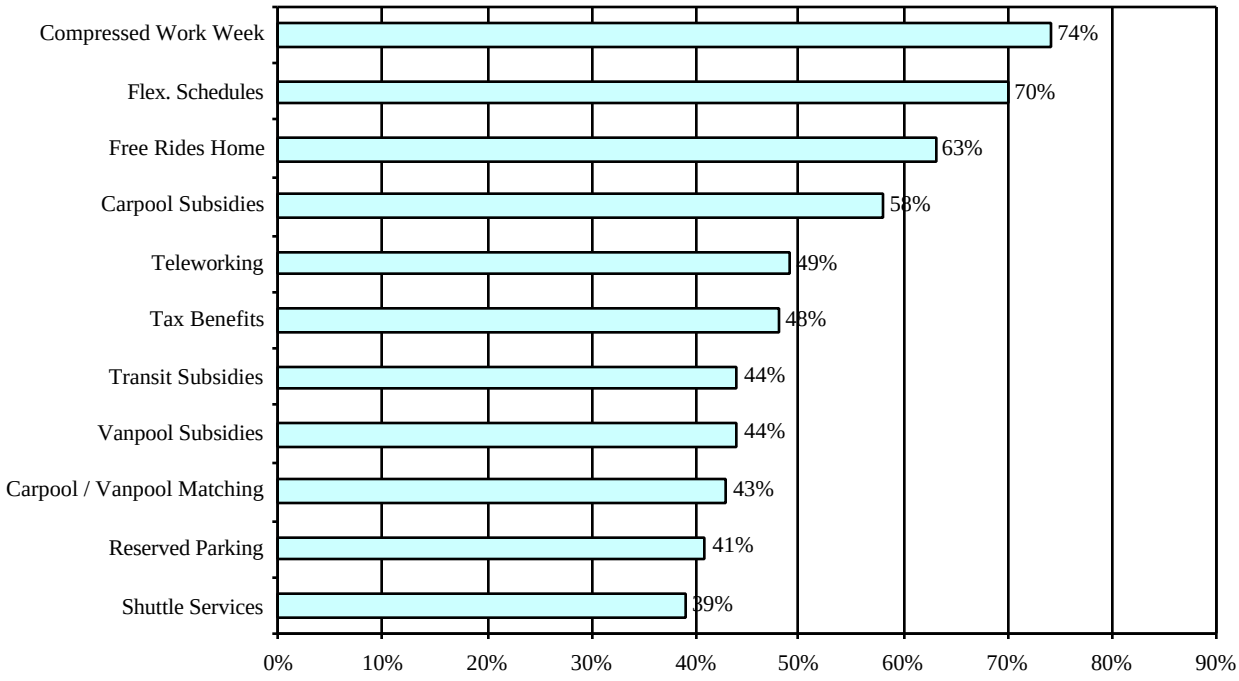
About half (50%) of metro Atlanta residents who said their employer offered employer-sponsored commute assistance programs gave these programs a ranking of extremely valuable or very valuable, a statistically significant decrease from the previous year. Sixty-one percent of employed residents ranked employer-sponsored programs extremely valuable or very valuable in December 2001. More importantly, employed residents who have tried a commute assistance program offered by their employer rank these programs higher in value than those who have not tried them.

Similarly, residents who have been in contact with The Clean Air Campaign were asked to rank the value of the organization. The majority (80%) gave the organization an extremely valuable or somewhat valuable ranking, representing a statistically significant increase from the previous year (67% in December 2001). As a result, the perceived value of The Clean Air Campaign is comparable to the May 2001 survey findings (82%).

LIKELIHOOD OF EMPLOYEE USE (BUSINESS LEADER PERSPECTIVE)

Survey interviewers also asked business leaders about the likelihood of employees using specific commute assistance programs if the employer were to offer them. As shown in Figure 7, employers believe their employees would be most receptive to compressed work week schedules (74%), flexible start and stop times (70%), and free rides home in case of an emergency (63%).

FIGURE 7: LIKELIHOOD OF EMPLOYEE USE OF COMMUTE ASSISTANCE PROGRAMS



Source: October 2002 Regional Business Leader Survey
QUESTION: If you were to offer…,how likely do you think your employees would be to take advantage of this service?

ATTITUDES SUMMARY

Atlanta residents consider traffic congestion and air quality serious quality of life issues. Atlanta business leaders believe traffic and congestion have a greater impact on business operation than air quality. When asked to rate how well the Atlanta metropolitan region has performed addressing traffic and congestion in the region, more than half of Atlanta business leaders give only a one, two, or three rating on a 10-point scale.

About half of the metro Atlanta residents who said their employer offered employer-sponsored commute assistance programs gave employer-sponsored programs a ranking of extremely valuable or very valuable. Residents who have tried a commute assistance program offered by their employer rank these programs higher in value than those who have not tried them.

The majority of metro Atlanta residents who have been in contact with The Clean Air Campaign organization gave it an extremely valuable or somewhat valuable ranking, marking a substantial increase from December 2001.

When asked about the likelihood of employees using specific commute assistance programs, business leaders believe their employees would be most receptive to compressed work week schedules, flexible start and stop times, and free rides home in case of an emergency for employees.

CHAPTER 4-C PARTICIPATION

INTRODUCTION

In Chapter 4-C, the measurement team examines *encourage program participation/facilitate arrangements (participation),* the third step in the performance measure continuum:

- Increase awareness
- Change attitudes
- ***Encourage program participation/facilitate arrangements***
- Encourage alternative mode utilization/maximize alternative mode use
- Generate travel and emission reductions

Participation is defined as the process of encouraging commuters and employers or property managers to participate in programs and services that facilitate alternative mode use. The programs and services supporting the Atlanta TDM Framework host a variety of activities that encourage and facilitate alternative mode use.

The FY2002 examination of the Participation performance measure is separated into 4 topic areas and is based on the four data sources listed below. A detailed description of each data source is presented in Chapter 3.

Topic Areas:

- Contact with Framework Partner Services
- Participation in Regional Programs and Services
- Commute Assistance Services Provided by Employers and Property Managers

Data Sources:

- June 2000 - December 2002 Regional Transportation Survey
- October 2001 - October 2002 Regional Business Leader Survey
- October 2002 Employer Partner Employee Travel Survey
- FY2002 Atlanta TDM Framework Performance Measure Final Report

CONTACT WITH FRAMEWORK PARTNER SERVICES

The Atlanta TDM Framework encourages commuters, employers, and property managers to contact Framework partners to learn more about the resources and service outlets available to assist them with commuting. Contact is a useful measure because it is an early indicator of how successful the Atlanta TDM Framework might be in encouraging participation in alternative modes. Framework partners tracked contact through information phone lines, employer and commuter requests, websites, and surveys.

Information Phone Lines

The Atlanta TDM Framework promoted two region-wide information phone lines for commuters, employers, and property managers to call during FY2002:

- *1-877-CLEANAIR* is the general information phone line for commuters and employers to call to learn more about the resources and services available throughout the region to help place commuters in alternative modes.
- *1-87-RIDEFIND* is the information phone line commuters are encouraged to call to receive ridematching and GRH services.

The Clean Air Campaign, through radio advertising and public relation activities, directed employers to call 1-877-CLEANAIR to learn more about commute options programs and teleworking and commuters to call 1-87-RIDEFIND to learn more about forming a carpool.

1-877-CLEANAIR - Information specialists answering the 1-877-CLEANAIR information phone line recorded approximately 193 calls during FY2002, an increase from the 111 calls recorded in FY2001. As shown in Table 5, 57 (30%) of the callers said they learned about the phone line via the radio, while 24 (12%) said they learned of the phone line via the newspaper. Another 15 (8%) said they were calling in response to an advertisement they saw on television.

TABLE 5: HOW CALLER HEARD ABOUT 1-877-CLEANAIR

How Caller Heard About 1-877-CLEANAIR	Total Calls
Radio	57
Newspaper	24
Television	15
Friend	9
Internet	5
News Broadcast	1
Out-of-Home Ad (bus, grocery store, gas station, billboard, etc.)	1
Other	81
Total	**193**

Source: FY2002 Atlanta TDM Framework Performance Measure Final Report

Table 6 shows the distribution of the 193 calls by the information requested. The most frequent reason a caller gave for calling the information line was to obtain information on carpooling or vanpooling (63 calls or 33%). The second most prevalent reason cited by callers was to obtain information on flexible schedules, teleworking, or alternative work arrangements (52 people or 27%).

TABLE 6: 1-877-CLEANAIR INFORMATION REQUESTS

1-877-CLEANAIR Information Requests	Total Calls
Air Quality	11
Carpool/Vanpool	63
Internal Employer Programs	1
Rideshare database	3
Transit	2
Flextime/Telework/Alternative Work Schedule	52
GRH	6
Speaker's Bureau	4
Other	51
Total	**193**

Source: FY2002 Atlanta TDM Framework Performance Measure Final Report

While FY2003 is not the focus of this report, 1-877-CLEANAIR experienced dramatic increases in call volume during the first three months of FY2003 (October—December), just after launching a new regional incentive program for commuters (Cash for Commuters). During this time period, 1-877-CLEANAIR received slightly more than 1,700 calls.

1-87-RIDEFIND - As shown in Table 7, technical operations specialists at Commute Connections recorded approximately 2,880 calls to 1-87-RIDEFIND during FY2002. Calls to 1-87-RIDEFIND represent a slight increase (3%) in call volume from FY2001 (2,801).

TABLE 7: 1-87-RIDEFIND CALLS FY2002

Month	Total Calls
October	502
November	189
December	248
January	265
February	186
March	130
April	294
May	261
June	244
July	116
August	220
September	225
Total	**2,880**

Source: FY2002 Atlanta TDM Framework Performance Measure Final Report

As shown in Table 8, Commute Connections made an effort to track how each caller heard about 1-87-RIDEFIND. Of the 2,880 calls coming into the information line in FY2002, 396 of the callers reported this information. Forty-six percent (183) of the 396 callers said they heard about the information line via the radio. Commute Connections did not track the information requested by the callers.

TABLE 8: HOW CALLER HEARD ABOUT 1-87-RIDEFIND

How Caller Heard About 1-87-RIDEFIND	Total Calls
Radio	183
Highway sign	60
Television	56
From a friend	42
From a billboard	28
Newspaper	3
Other sources	24
Total	**396**

Source: FY2002 Atlanta TDM Framework Performance Measure Final Report

Employer and Commuter Requests - The measurement team also asked Framework partners to track information requests as a measure of individual commuter and employer and property manager contact. The requests are a measure of the number of direct commuter or employer or property manager requests/inquiries received through phone, fax, email, website, or any other method for commute information or assistance.

Three Framework partners—CAC Public, CAP/Downtown TMA, and MTS—tracked incoming requests during FY2002. As shown in Table 9, they reported answering a total of 1,109 commuter requests, an average of 92 per month, and a total of 1,387 employer or property manager requests, an average of 116 per month.

TABLE 9: COMMUTER AND EMPLOYER OR PROPERTY MANAGER INFORMATION REQUESTS

Information Requests[1]	Total
Commuter Information Requests	1,109
Employer or Property Manager Information Requests	1,387

Source: FY2002 Atlanta TDM Framework Performance Measure Final Report
[1]Data represents commuter information requests reported by CAP/Downtown TMA and MTS and employer or property manager information requests reported by CAC Public, CAP/Downtown TMA, and MTS.

Website Activity

Many Framework partners use program websites as a way for commuters and employers to learn more about commute alternatives and alternative commute programs available in their service areas. The Clean Air Campaign led a focused paid media and public relations effort encouraging commuters to visit www.cleanaircampaign.com to learn more about employer commute option programs and carpooling throughout FY2002.

Table 10 shows FY2002 website activity for the TMAs that reported website data during the year and for The Clean Air Campaign. The measurement team asked Framework partners to collect website data on three key statistics: unique visitors, sessions, and page views. While all TMAs have information available on a website, some do not track activity or are unable to provide the requested measures.

The Clean Air Campaign nearly doubled (47%) the number of unique visitors from FY2001 to FY2002. The number of www.cleanaircampaign.com sessions also increased, about 20% from FY2001.

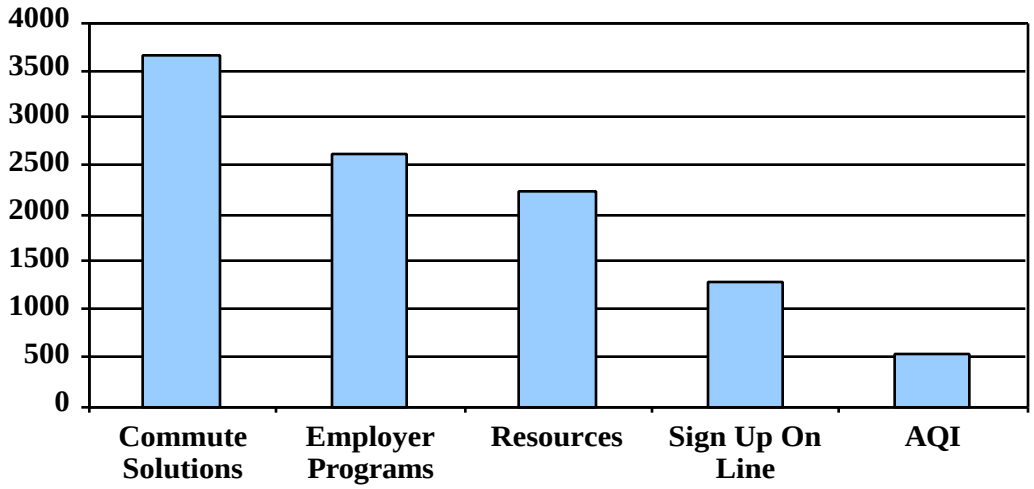
TABLE 10: FY2002 WEBSITE ACTIVITY

Website Statistics	TMAs	www.cleanaircampaign.com
Unique Visitors[1]	24,536	43,022
Sessions[2]	98,257	87,467
Page Views[3]	140,402	152,434

Source: FY2002 Atlanta TDM Framework Performance Measure Final Report
[1]Data reported by BATMA and CobbRides for all of FY2002 and for HATMA a total of 6 months.
[2]Data reported by BATMA, CobbRides, and PTC for all of FY2002.
[3]Data reported by BATMA, CobbRides, PTC, and MTS for all of FY2002 and for HATMA a total of 6 months.

The measurement team also asked The Clean Air Campaign to track the most requested website pages on www.cleanaircampaign.com. Figure 8 shows the top five most requested pages over the course of the fiscal year in descending order: Commute Solutions (3,661), Employer Programs (2,623), Resources (2,248), Sign Up On Line (1,276), and Air Quality Index (550).

FIGURE 8: FY2002 TOP 5 MOST REQUESTED WWW.CLEANAIRCAMPAING.COM PAGE VIEWS

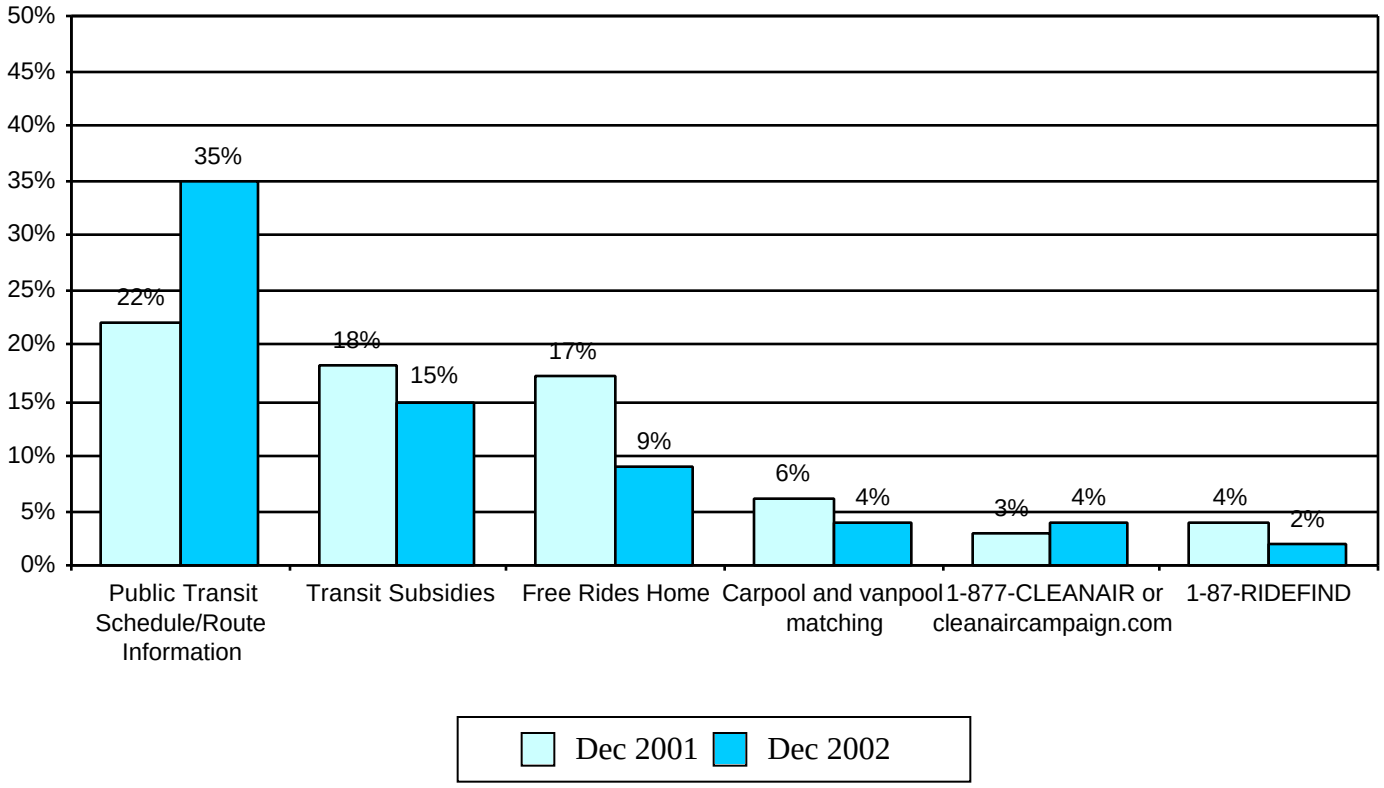


Source: FY2002 Atlanta TDM Framework Performance Measure Final Report

Overall Metro Atlanta Resident and Business Leader Contact

Metro Atlanta Residents - The regional transportation survey polled metro Atlanta residents who were aware of several regional services available in the Atlanta area to find out if they had been in contact with the services. As shown in Figure 9, metro Atlanta residents have had greater contact with transit related services. The changes from December 2001 to December 2002 for "public transit schedule or route information" and "free rides home" services are statistically significant.

FIGURE 9: METRO ATLANTA RESIDENT CONTACT WITH REGIONAL SERVICES

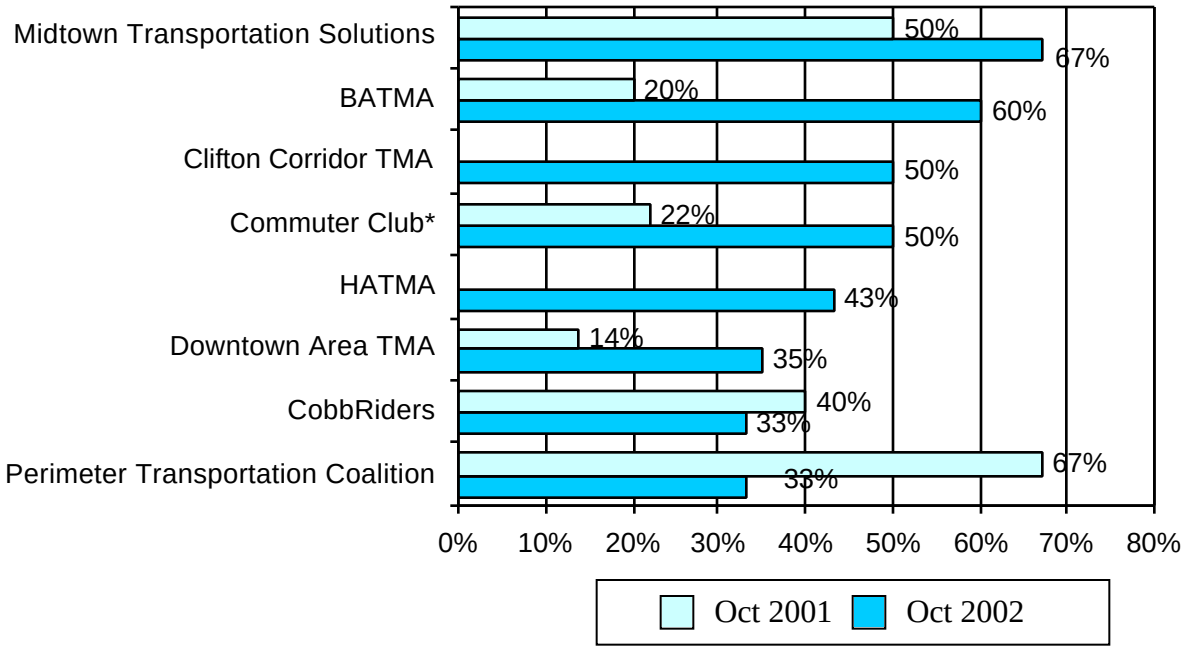


Source: December 2001- December 2002 Regional Transportation Surveys
QUESTION: I'm going to read you a list of programs and services available here in the Atlanta area to help commuters. As I read each one, please tell me if you have heard of the service or not and if so, if you have contacted or been contacted by anyone regarding this service?

Regional transportation survey interviewers also asked metro Atlanta residents who had heard of The Clean Air Campaign organization if they had been in contact with the organization. Six percent of metro Atlanta residents who had heard of The Clean Air Campaign had been in contact with the organization (45 respondents). Residents who work in more urbanized areas of the region are more likely to interact with The Clean Air Campaign than respondents working in less urbanized areas.

Business Leaders - The business leader survey polled business leaders who are aware of the local TMA servicing their area to find out if they had been in contact with the TMA. As shown in Figure 10, business leader contact with a TMA organization increased from December 2001 to December 2002 for almost every TMA. In 2002, 46% of employers surveyed said they had contacted or been contacted by a TMA, compared to only 27% in 2001. Survey interviews asked business leaders about the TMA servicing their area only, which resulted in small sample sizes for many of the TMAs and wider statistical variance in the accuracy of the survey findings.

FIGURE 10: BUSINESS LEADER CONTACT WITH TMA ORGANIZATIONS



Source: October 2001-October 2002 Regional Business Leader Surveys
QUESTION: Have you or someone in your organization contacted or been contacted by…?
*Notes: Commuter Club changed its name from Cumberland Transportation Network to Commuter Club in Spring 2002. Respondents were asked about both.

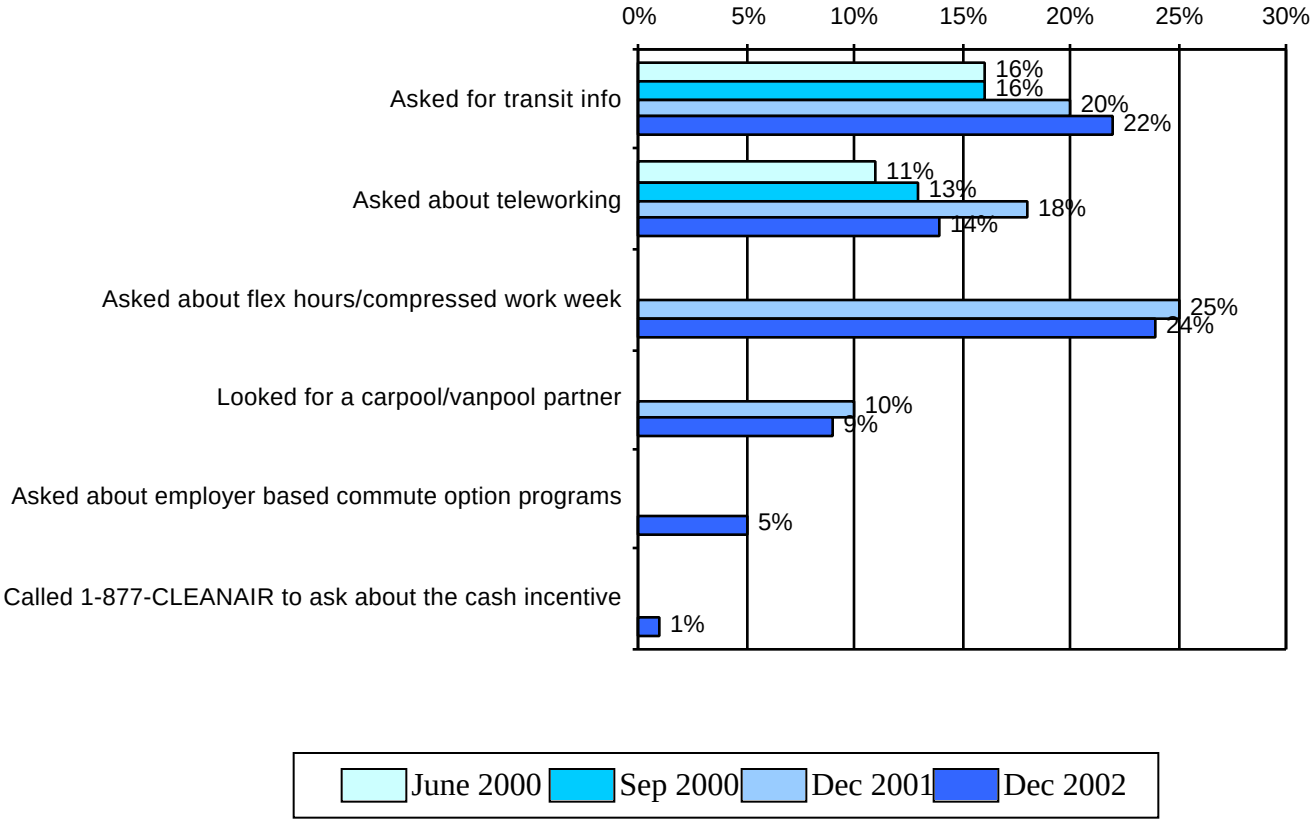
Further analysis of the business leader survey results indicate that employers who have been in contact with their local TMA are more likely to offer commute assistance to their employees.

Large Scale Media Campaign and "Calls to Action"

The regional transportation survey polled metro Atlanta residents to find out if they had taken specific actions in response to seeing, hearing, or reading various advertisements. As shown in Figure 11, several of these actions, including those promoted by The Clean Air Campaign, registered with metro Atlanta residents (see Chapter 2 for a description of Clean Air Campaign media campaign calls to action). The changes from the early June and September 2000 surveys were statistically significant for the "Asked about teleworking" in December 2001 and "Asked for transit information" in December 2002.

These comparisons, along with the figures presented on the following pages, provide an indication of intermediate behavior—a small step a commuter may take before he or she decides to try an alternative mode—and the influence the large-scale media campaign, public relation activities, and other Framework partner outreach efforts have on this action.

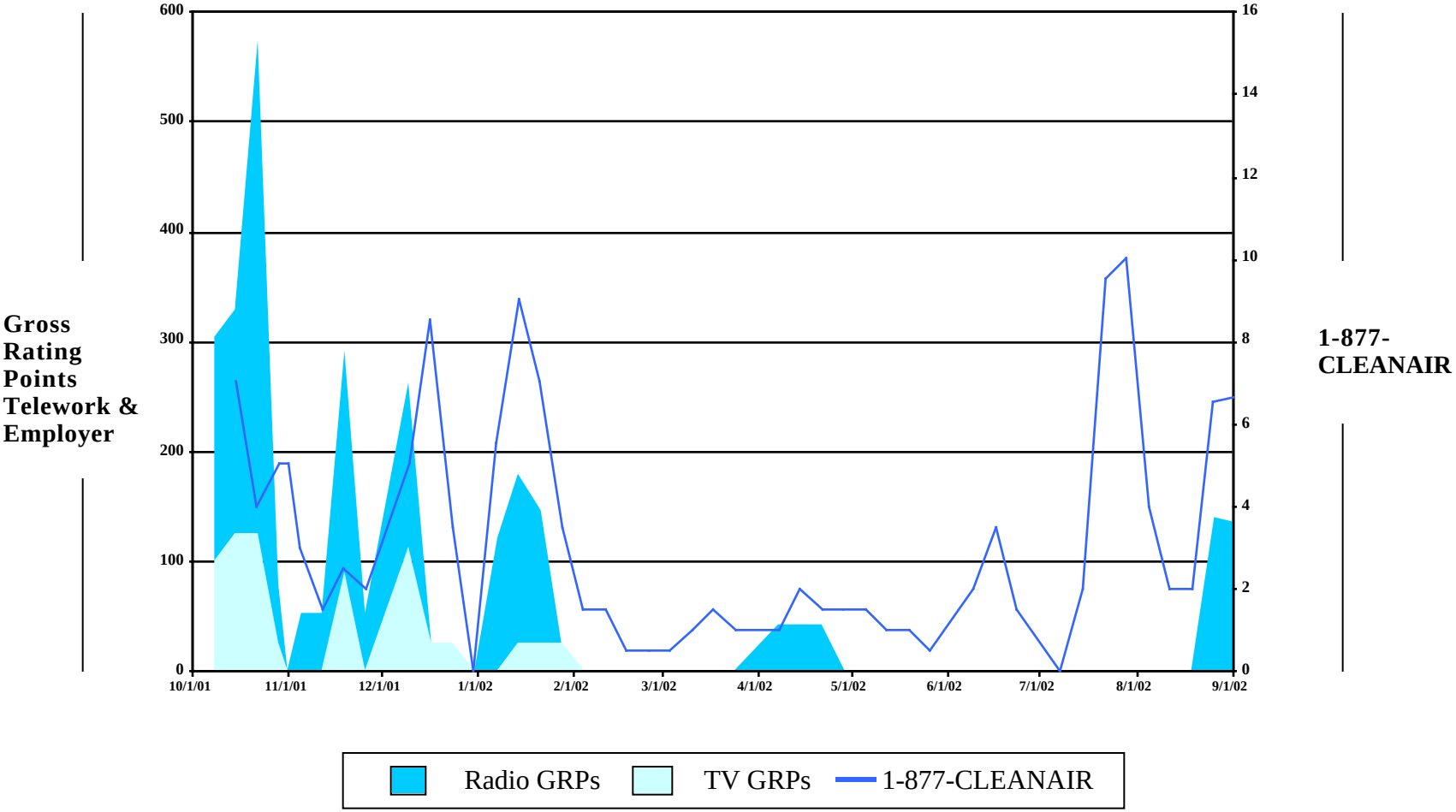
FIGURE 11: METRO ATLANTA RESIDENT SPECIFIC ACTIONS RELATED TO ADVERTISING



Source: June 2000- December 2002 Regional Transportation Surveys
QUESTION: Now, I am going to read you a list of actions that some people might take after seeing, hearing, or reading various advertisements. As I read each one, please tell me if in the past year, you have: taken this action, considered taking this action, or not taken this action.

Figures 12, 13 and 14 present the large-scale media campaign advertising compared with the call volume to 1-877-CLEANAIR, 1-87-RIDEFIND, and unique visitors to www.cleanaircampaign.com. Although not presented in this data, the large-scale public relations activities (which included 136 media placements during the 2002 smog season) and employer and individual outreach services also had an influence on call volume and website activity.

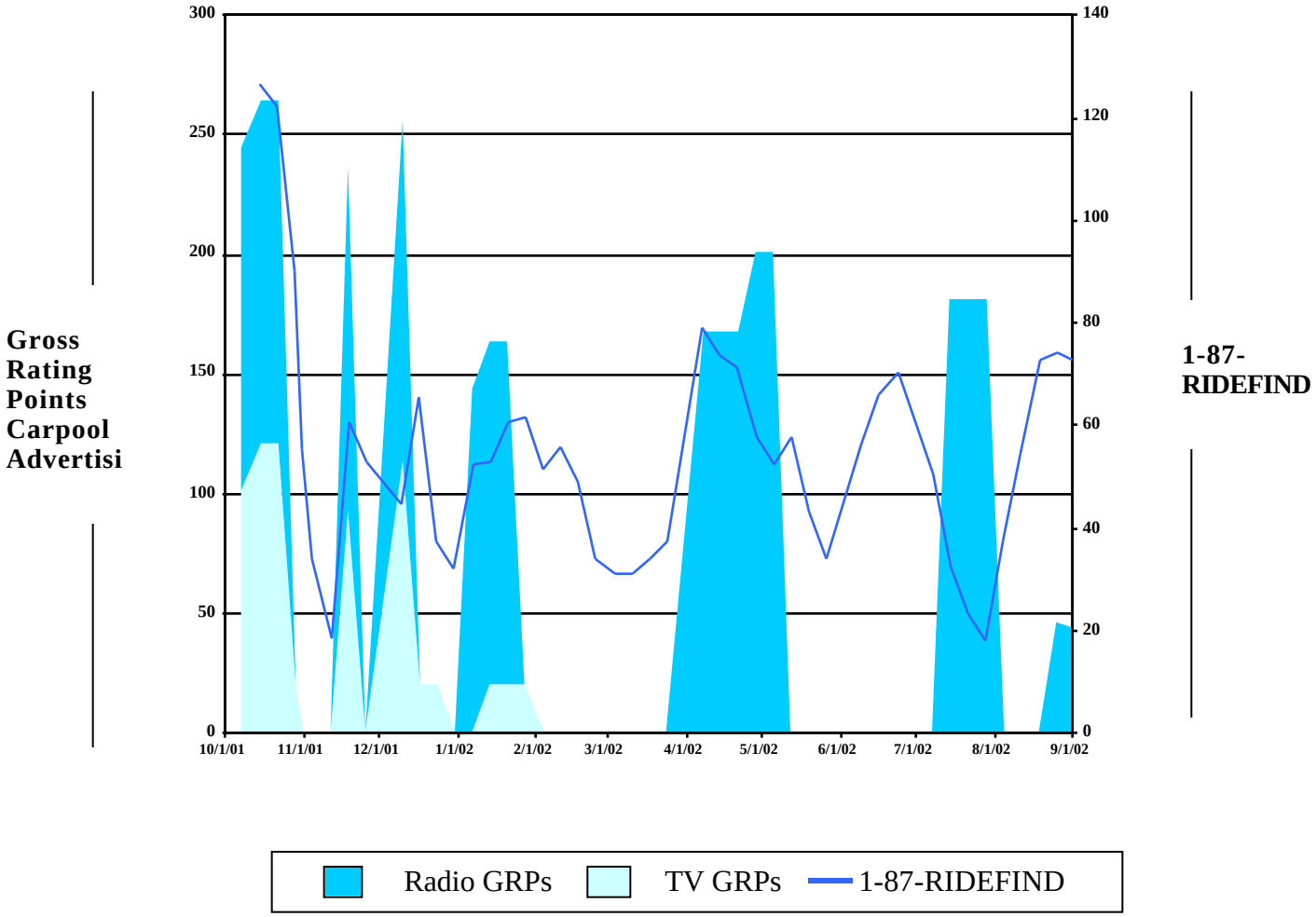
FIGURE 12: ADVERTISING WEIGHT VS. 1-877-CLEANAIR CALLERS



Source: FY2002 Atlanta TDM Framework Performance Measure Final Report

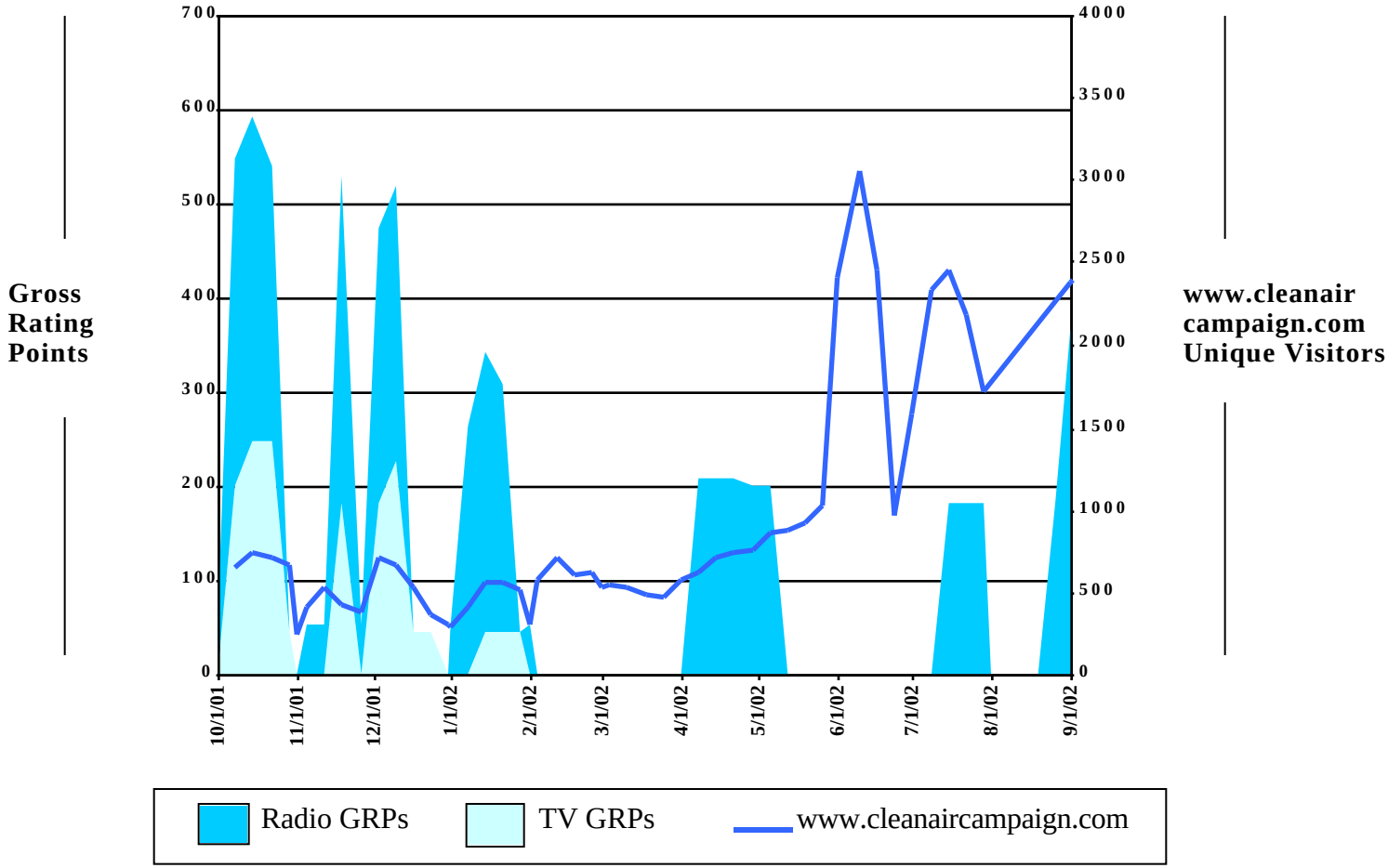
Notes: Advertising weight is measured in terms of gross rating points (GRPs). GRPs are a function of the audience reach within the community multiplied by the frequency of the message delivered. Reach measures the number of different people who are

FIGURE 13: ADVERTISING WEIGHT VS. 1-87-RIDEFIND



Source: FY2002 Atlanta TDM Framework Performance Measure Final Report
Notes: Advertising weight is measured in terms of gross rating points (GRPs). GRPs are a function of the audience reach within the community multiplied by the frequency of the message delivered.

FIGURE 14: ADVERTISING WEIGHT VS. WWW.CLEANAIRCAMPAIGN.COM



Source: FY2002 Atlanta TDM Framework Performance Measure Final Report
Notes: Advertising weight is measured in terms of gross rating points (GRPs). GRPs are a function of the audience reach within the community multiplied by the frequency of the message delivered. Reach measures the number of different people who are

PARTICIPATION IN REGIONAL PROGRAMS AND SERVICES

Framework partners encourage commuters, employers, and property managers to participate in regional programs and services to assist them with commuting alternatives and implementation of commute assistance programs. The Atlanta TDM Framework tracked participation for the major programs and services available to commuters, employers, and property managers through quarterly activity reports and surveys.

Regional Rideshare Database and Guaranteed Ride Home (GRH) Program

Commute Connections entered approximately 12,504 rideshare applications into the regional rideshare database during FY2002. Framework partner outreach staff submitted 10,897 of these applications to the Commute Connections rideshare database during the federal fiscal year[6]. The applications accounted for approximately 87% of the total applications entered by Commute Connections. In FY2001, Framework partner outreach staff submitted approximately 16,500 applications to Commute Connections, approximately 34% more than FY2002.

The total number of registrants in the database at the close of FY2002 was 28,123, an increase of about 26% from the previous year (22,300). The total number of worksites enrolled in the GRH program at the close of FY2002 was 471, an increase of about 49% from FY2001 (316 worksites).

Incentive Program

At the close of FY2002, almost 100 employers and property managers and 3,630 commuters were participating in various commute incentive programs. Descriptions of the type of incentives provided are reported below:

Incentives Provided by Framework Partners[7] – Framework partners offer a wide variety of incentives, including "try it" days, commuter rewards programs, free gas cards for ridesharing, and full or partial subsidies to participate in a formal vanpool program. About 76 employers and property managers and 670 commuters participated these incentive programs. A description of some of the incentive programs offered by Framework partners follows:

- ***"Try It" Days*** award participants at employer partner worksites who travel to work using an alternative mode on a designated day. Commuters are encouraged to use an alternative form of transportation for their commute (e.g., carpool, transit) and those who do are eligible for a financial reward. "Try It" Days are repeated at employer worksites on a periodic basis to encourage additional alternative mode use.

- ***Commuter Rewards Programs*** offer monthly financial prizes to commuters who submit monthly rider logs and use alternative modes the most. First time participants also receive financial incentives to encourage continued participation.

- ***Free gas cards***, typically worth about $25, are awarded on a monthly basis to commuters who are willing to share a ride to and from work at least three times a week during the month. The gas cards are typically awarded to each carpool.

[6] The difference in the number of applications reported by Framework partners and by Commute Connections is due to a variety of factors, including lag time for entering applications, reactivations, duplications, and assigning people who come in through the hotline or website into the appropriate service provider areas.

[7] Framework partners did not track transit operator discounts (MARTA Partnership Program) as part of the program incentive participants during FY2002.

- ***Full or partial vanpool subsidies*** may include assisting employers to fill empty vanpools seats by paying down the costs for new riders for an extended period of time (3-6 months). This program helps maintain existing vanpools and fill newly created vanpools. Another subsidy program, the 4-3-2-1 empty seat program offsets the costs of the newly created vanpools. Framework partners pay the costs of four empty seats the first month the vanpool is in operation, three empty seats the second month it is in operation, two empty seats the third month, and one empty seat the fourth month.

Many Framework partners work collaboratively on joint incentive programs. For example, The Clean Air Campaign and TMAs were responsible for enrolling over 2,500 Atlanta motorists in The Clean Air Campaign's Cash for Commuters program (October 2002-February 2003). The first time commute assistance program provided a financial incentive for up to three months for commuters committed to using alternative modes. Approximately 1,800 registrants completed the program. A telephone survey in July 2003 found that the majority (70%) of these commuters continue to use the primary commute alternative they used during the program several months after completing the program.

In addition, working together, The Clean Air Campaign and TMAs were responsible for signing up over 80 employers in The Clean Air Campaigns' first annual Clean Air Challenge, a three-month competition travel during smog season to encourage less single occupancy travel to and from work. Lastly, in a unique partnership, three TMAs and The Clean Air Campaign launched an incentive program to increase carpool ridership in the Downtown, Midtown, and Buckhead areas. As of June 2003, these TMAs and The Clean Air Campaign were awarding over 300 carpoolers with a monthly gas card ranging from $25 to $75.

Incentives Provided by Employers -The majority of employer provided incentives encouraged the use of carpooling and vanpooling. Carpooling incentives included preferential parking programs, free parking, and/or monthly financial incentives (e.g., $15/month, free car washes, car details, oil changes). Several employers also fully or partially subsidized employee vanpools. Other employers offered periodic prize drawings to reward carpoolers, vanpoolers, and transit users. Framework partners reported about 15 employers offering these incentives at the close of FY2002[8].

Joint Incentives Provided by Framework Partners and Employers - Several Framework partners, as part of their outreach service, assisted employers' efforts to fill empty vanpool seats by offering free rides for 3-6 months. The employers typically provided an additional subsidy for the months after the Framework partner subsidy expired, as well as free parking for the vanpool and the rider on days they were not able to commute in the van.

Some employers also offered additional incentives for commuter rewards programs, to either augment the financial commitment provided by the Framework partner or to provide an additional incentive, such as preferential or free parking.

Framework partners reported at least 10 employers actively participating in a jointly provided incentive program at the close of FY2002.

Transit Passes Sold

Participation in transit pass programs varies among Framework partners, largely because of the varying level of transit infrastructure available in each service area. Some service areas have access to rail and bus service, while other service areas have limited or no access to rail and bus services.

[8] The number of employers who provide incentives is likely underestimated; many Framework partners do not track in detail incentives provided by employer partners.

Discount Transit Pass Program - All eight TMAs and SECAP sell discount transit passes. A variety of discount transit passes are sold, including: monthly MARTA, weekly MARTA, single-trip MARTA, 10-ride CCT, monthly CCT, monthly Gwinnett County Transit, 10-ride Gwinnett County Transit, and C-Tran passes.

As shown in Table 11, the largest number of passes sold through this program are the monthly MARTA passes, with 238,329 monthly passes sold during fiscal year 2002, an increase of approximately 31% since the close of FY2001. Central Atlanta Progress/Downtown TMA was responsible for selling 69,589 of these passes during FY2002 (29%), the largest number sold by a Framework partner.

TABLE 11: FY2002 DISCOUNT TRANSIT PASSES SOLD

Discount Transit Pass Program	Passes Sold
Monthly MARTA	238,329
Weekly MARTA	40
Single trip MARTA	39,640
10-ride Cobb Community Transit (CCT)	1,721
Monthly CCT	200
Gwinnett County Transit	560
10-ride Gwinnett County Transit	273
Monthly Clayton County Transit (C-Tran)	9
Total	**280,772**

Source: FY2002 Atlanta TDM Framework Performance Measure Final Report

The SECAP program provides the largest financial incentive to encourage transit use (approximately $18 reduction on the market price of a transit pass), a combined subsidy from SECAP and the Georgia Building Authority. The majority of TMAs provide MARTA monthly passes at the MARTA Partnership Program discount (8%). However, at least two TMAs provided an additional subsidy above the MARTA Partnership Program discount during FY2002. Other subsidy programs included a 30% subsidy provided by CobbRides and Commuter Club for CCT 10-ride passes and a $2.00 subsidy provided by Central Atlanta Progress/Downtown TMA for Gwinnett County Transit and select CCT passes.

In FY2002 MARTA reduced the level of discount for the MARTA Partnership Program from an 18%-20% discount to a 6%-8% discount, resulting in decreased monthly transit pass sales for at least one Framework partner. However, increased discount transit pass sales by many Framework partners, including recently formed TMAs in the Midtown and Downtown areas, helped to offset decreased sales for the MARTA Partnership Program as a whole.

Central Atlanta Progress/Downtown TMA was particularly successful due, in part, to the higher level of transit availability in the downtown TMA area. In addition, Central Atlanta Progress/Downtown TMA is actively promoting and sponsoring a transit subsidy program, which offers an additional subsidy for employers who provide employees an additional subsidy above the current 8% MARTA Partnership Program discount to employees.

Non-Discount Transit Passes Sold – Framework partners sold 25,889 non-discount transit passes during FY2002. The majority of the passes sold were single-trip MARTA passes (21,068), followed by weekly MARTA passes (4,266), and monthly CCT passes (336). HATMA sold the majority of the single trip MARTA passes (64% or 13,549 passes).

Shuttle Ridership

Similar to transit passes sold, shuttle availability and offerings differ greatly among the Framework partners because of varying degrees of available infrastructure. Limited access to rail or bus services and few mid-day routes to consider due to a lack of central shopping areas or dining districts makes it difficult for many Framework partners to gain employer support for shuttles.

The Clifton Corridor TMA-Decatur shuttle was the only Framework partner shuttle in operation during FY2002, with an average monthly ridership of about 5,550 people. Five Framework partners reported employer shuttles operating in their respective service areas during FY2002. In total, these employers reported 12 shuttles transporting individuals from transit stations to employer partner worksites and three shuttles transporting individuals from employer partner worksites to local shopping malls during mid-day lunch hours. Many Framework partners also reported that local area hotels provide mid-day shuttles or shuttles to transit stations, but use of these shuttles was not tracked.

Examples of employer-operated shuttles include the Emory University shuttle, serving the largest employer in the Clifton Corridor service area. Central Atlanta Progress/Downtown TMA reported two employer-operated shuttles: the Georgia State University shuttle and the other a large employer shuttle. Perimeter Transportation Coalition (PTC) reported at least four employer shuttles in operation. Two shuttles run all day operating as feeder shuttles to the nearby rail station. The other two shuttles operate at limited times: one travels to and from a local shopping mall during lunchtime, while the other is a feeder shuttle to the rail station operating at morning and evening peak rush hours.

Two TMAs—CobbRides and PTC—operated holiday mid-day shuttles in the first quarter of FY2002 (December 2001). CobbRides recorded a total of 959 boardings and PTC a total of 5,475 boardings.

Vanpools and Vanpool Riders

At the close of FY2002, the three primary regional vanpool service providers—Douglas County Rideshare, Georgia Building Authority, and MetroVanPool—had approximately 190 vans in operation throughout the metropolitan Atlanta region, with total ridership at about 1,846 riders. The ridership represents an increase of about 9%, or 16 vans over FY2001. Framework partners reported a total of 12 other vanpools in operation at this time that are not served by these three regional service providers, about 60 riders total.

Of the regional vanpool service providers, MetroVanPool is the largest, with approximately 125 vanpools and 1,185 riders at the close of FY2002. Two TMAs—Commuter Club and Clifton Corridor—are responsible for forming the largest number of Framework partner vanpools, about 42 vanpools in all. The majority of these vans received substantial start-up subsidies from these TMAs. And while the vans have been in operation for several years and are now largely supported through employer funds, Commuter Club and Clifton Corridor continue to support efforts to maintain ridership and fill empty vanpool seats with financial assistance on an as needed basis.

HATMA established a vanpool program at one large employer site during FY2002, creating two new vanpools with a total of 23 riders. With assistance through the CAC regional vanpool incentive

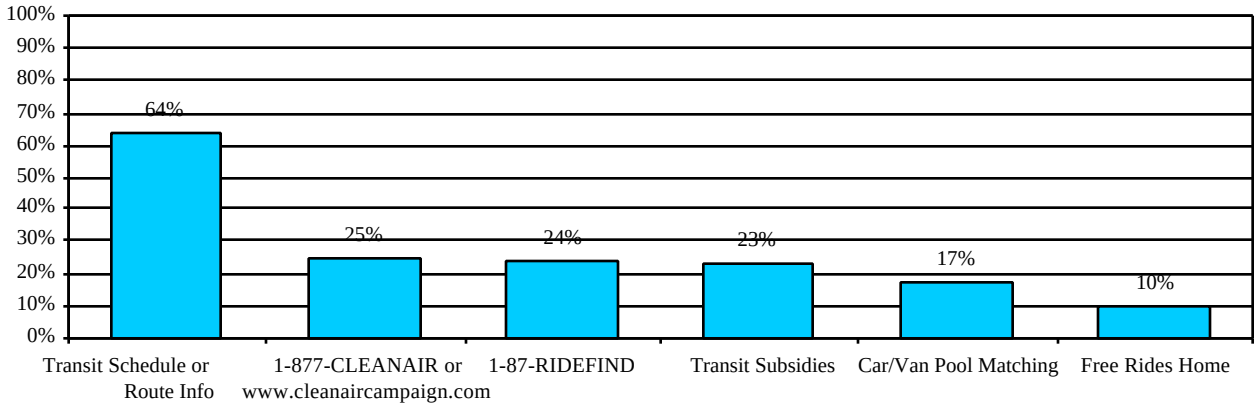
program, HATMA was able to provide a full subsidy to vanpool riders for their first year of operation.

Framework partners continue to help maintain vanpool ridership, through empty seat financial assistance programs and new vanpool rider subsidies, for existing regional vanpool provider vanpools traveling to their service area. As stated previously, seven of the eight TMAs, along with The Clean Air Campaign, provide some level of vanpool subsidy to employers and commuters in their service area.

Overall Metro Atlanta Resident and Business Leader Participation

Metro Atlanta Residents – The regional transportation survey polled metro Atlanta residents who had been in contact with regional services available in the Atlanta area to find out if they had used any of the services. As shown in Figure 15, the services used most frequently are transit related: "public transit schedule or route information". About a quarter of those who had been in contact with the two region-wide information lines stated they had used services provided by information specialists answering the phone lines.

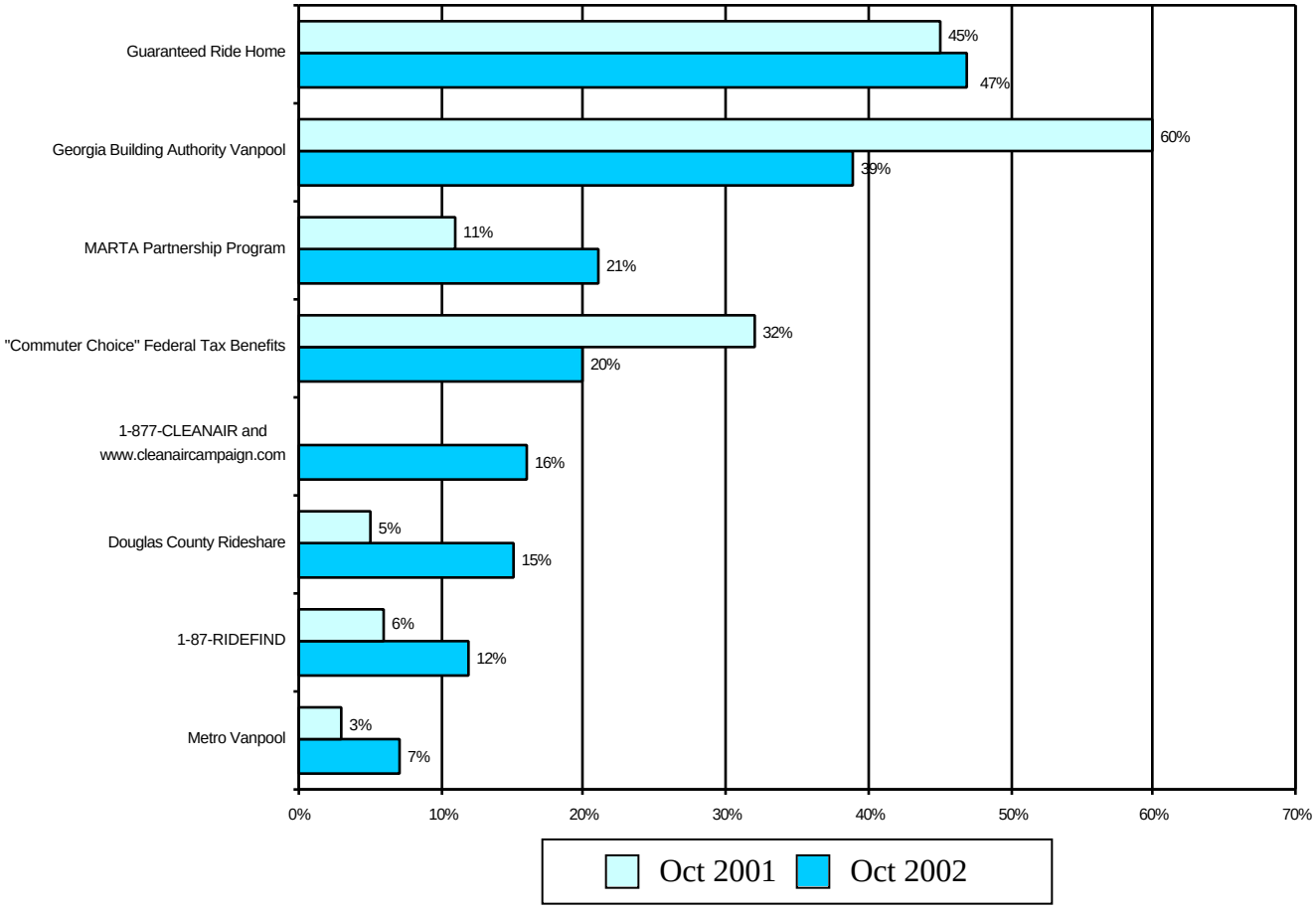
FIGURE 15: METRO ATLANTA RESIDENT USE OF REGIONAL SERVICES



Source: December 2002 Regional Transportation Survey
QUESTION: Earlier you mentioned that you have contacted or been contacted regarding alternative modes of transportation services. Of those services or programs that you have contacted or been contacted, which ones have you used?

Business Leaders - The business leader survey asked employers who had heard of regional programs about their participation in these programs. The findings indicate increased business leader participation (e.g., offer programs to employees) with many area programs. As might be expected, business leaders who say they participate in these regional programs are more likely to say they offer commute assistance to employees.

FIGURE16: BUSINESS LEADER PARTICIPATION IN REGIONAL PROGRAMS



Source: October 2001-October 2002 Regional Business Leader Surveys
QUESTION: Is your organization currently participating in…? (Asked of those already aware of the service)
*Notes: 2002: 1-877-CLEANAIR or www.cleanaircampaign.com was changed from Commute Options Program

COMMUTE ASSISTANCE SERVICES PROVIDED BY EMPLOYERS AND PROPERTY MANAGERS

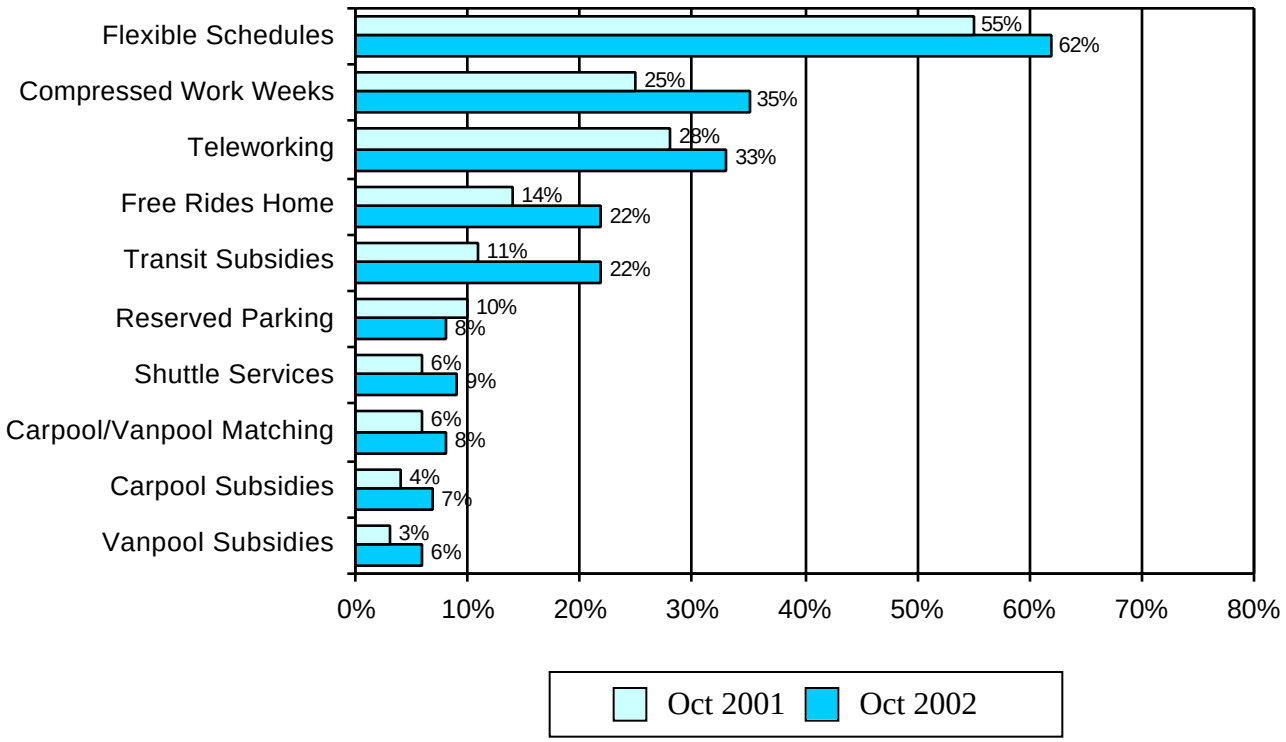
The previous sections described metro Atlanta residents' and business leaders' involvement in regional programs and services. This section examines availability of employer or property manager sponsored commute assistance programs, that is, commute assistance employers or property managers provide directly to employees or tenants. This section also examines employee use of these services.

All Regional Worksites

Availability or Programs - Seventy-seven percent of business leaders surveyed in December 2002 said they offered at least one program to employees, a statistically significant increase from the 65% of business leaders who said they offered at least one program in December 2001. As shown in Figure 17, a comparison of the 2002 and 2002 program level survey findings reveals statistically significant increases in business leaders who offer employees flexible schedules, compressed work weeks, free rides home, and transit subsidies.

Interestingly, while many business leaders reported that they offer these programs, a more detailed analysis of the survey findings reveals few realize these programs qualify as commute assistance. For example, business leaders might consider these programs part of an overall employee benefit package and therefore a recruitment service rather than a transportation service.

FIGURE 17: PROGRAMS CURRENTLY OFFERED BY AREA BUSINESS LEADERS



Source: October 2001 – October 2002 Regional Business Leader Surveys
QUESTION: If you were to offer…, how likely do you think your employees would be to take advantage of this service?

The regional transportation survey polled metro Atlanta residents to find out if their employers offered any commute assistance programs. Because the employee may not be aware of the programs offered by their employer (for example, if the employer does not promote the services or if the employee did not notice the promotional information), these results could underestimate the actual program availability. The survey showed that more metro Atlanta residents had access to employer worksite commute assistance programs in 2002 (24% of respondents) compared with 2001 (20% of respondents).

Survey findings also reveal availability or awareness of commute assistance programs is more common for metro Atlanta residents working in more urbanized areas. Thirty-four percent of residents working in more urbanized areas said they had access to employer sponsored commute assistance programs, compared to 24% in areas of medium urbanization and 9% in areas of lower urbanization.

Table 12 shows the top six employer-sponsored commute assistance services metro Atlanta residents said were available at their worksite. The percentage of respondents noting availability of employer carpool subsidies increased from 3% in 2001 to 11% in 2002, representing the only major shift during this time period.

TABLE 12: AVAILABILITY OF SPECIFIC EMPLOYER COMMUTE ASSISTANCE PROGRAMS

Commute Assistance Programs	December 2001	December 2002
Subsidies or discount passes for employees who ride transit	47%	47%
Carpool or vanpool matching services	21%	22%
Teleworking opportunities	19%	16%
Shuttle services	13%	9%
Flexible arrival and departure schedules	9%	11%
Carpool subsidies	3%	11%

Source: December 2001 – December 2002 Regional Transportation Surveys
QUESTION: Specifically, what programs does your employer offer to employees who are interested in alternative modes of transportation or commuting alternatives?

Metro Atlanta residents who said their employers offered commute assistance have lower drive alone rates and are more likely to try commuting alternatives than employees who said their employers did not offer these services. As shown in Table 13, 62% of metro Atlanta residents who indicated their employer offered commute assistance drive alone to work, compared to 82% who drive alone who said they did not have access to or knowledge of these programs.

TABLE 13: COMMUTE BEHAVIOR FOR EMPLOYEES WHO SAID EMPLOYER OFFERS COMMUTE ASSISTANCE

Availability of Employer-Sponsored Commute Assistance Program	Yes	No
Drive Alone (Past week only)	62%	82%
Always Drive Alone (Past year including past week)	11%	28%
Tried an Alternative (Past week only)	39%	18%
Ever Tried an Alternative (Past year including past week)	90%	72%

Source: December 2002 Regional Transportation Survey
QUESTION: As far as you know, does your employer offer any programs or assistance to employees who are interested in alternative modes of transportation or commuting alternatives?

Use of Programs - Approximately 35% of metro Atlanta residents who said their employer offers commute assistance services have used a service (35% of 248). Use includes one-time, occasional, and regular use. Employees in more urbanized areas use employer-sponsored commute assistance services more often (39%) than employees in less urbanized areas (25%-30% of respondents have used an employer-sponsored commute assistance service).

Framework Partner Worksites

Availability of Programs – The employer partner employee travel survey polled employees working for employers who partner with TMAs, CAC Public, or CAC Private to provide commute assistance services. The employers participating in the survey (referred to as Employer Participants) offered employees varying levels of commute assistance. Some employers only offer employees information about commute alternatives and access to rideshare matching services, while others offer financial assistance to encourage alternative mode use.

Table 14 shows employee awareness for the top five commute assistance services offered by Employer Participants and employee use of these services. Overall, these employees indicate greater availability or awareness of employer-sponsored commute assistance programs than regional worksites, as measured through the regional transportation survey. However, many of the employees at Employer Participant worksites are not aware of the range and extent of commute assistance services offered by their employer, and therefore, actual use of services remains low.

TABLE 14: AWARENESS OF WORKSITE SERVICES OFFERED

Information, Service, Benefit	Services Offered	Services Used
Carpool/vanpooling information	36%	7%
Discount transit passes/free transit passes	33%	10%
Transit information or schedules	25%	7%
Bicycle racks/other bike services	22%	1%
Guaranteed Ride Home (emergencies or overtime)	20%	2%

Source: October 2002 Employer Partner Employee Travel Survey

Similar to the regional transportation survey, employees of Employer Participants who offered commute assistance programs have lower drive alone rates than employees of Employer Participants who said they did not have access to these programs. Availability of commute assistance programs also appears to play a role in a commuter's decision to make a commute change. The survey found higher rates of change to alternative modes among respondents who said their employers offered commute assistance programs.

Employer or Property Manager Clients

Framework partners encourage employers and property managers to offer commute assistance programs at their worksites and become "employer or property manager partners". At the close of FY2002, the Atlanta TDM Framework had established or maintained relationships with approximately 670 employer and 107 property manager clients, an approximately 21% increase from FY2001 (644).

Most Framework partners record the commute assistance programs provided by these clients. As shown in Table 15, the vast majority of employer and property manager clients offer employees information about commute alternatives and access to rideshare matching through information and support programs. Some employers and property managers do not provide these programs themselves, but promote the availability of services offered to their employers. For example, many employers and property managers offer ridesharing services through 1-87-RIDEFIND.

Many employers offer enhanced commute assistance programs, typically in the form of financial incentives, to facilitate an employees' or tenants' use of alternative commute modes. Again, the employer or property manager may not provide the incentive directly. In many cases, the employer's role is to make employees or tenants aware of the incentive program being offered. Enhanced carpool, vanpool, or transit programs may include:

- Financial incentives, such as "try-it" and ongoing financial incentives;
- Free or discounted parking for rideshare partners;
- Access to fleet cars or a shuttle for mid-day use by rideshare partners, transit riders, bikers, or walkers, vanpool administration;
- Employer subsidies for bike or walk equipment purchases.

Enhanced teleworking and compressed work week programs include employers who have established a formal teleworking or compressed work week programs or policies for all or some employees.

TABLE 15: EMPLOYER OR PROPERTY MANAGER CLIENTS, SEPTEMBER 30, 2002

Programs	Employer Clients	Property Manager Clients	Employees w/ Access[1]
Total Employer Clients	670	-	-
Total Property Manager Clients	-	107	-
w/ Information/Support Programs	643	105	164,722
w/ Enhanced Carpool Program	75	26	84,367
w/ Enhanced Vanpool Program	91	26	66,975
w/ Enhanced Transit Program	294	23	156,992
w/ Enhanced Bike/Walk Program	11	26	48,487
w/ Enhanced Telework Program	99	0	25,942
w/ Enhanced Compressed Work Week Program	117	0	26,982

Source: FY2002 Atlanta TDM Framework Performance Measure Final Report
[1]Employees w/ access are tracked by a handful of employer outreach service providers.

Overall, CAC Public has the greatest number of employers offering enhanced programs, largely as a result of the SECAP program, which provides state agencies primarily in the downtown area access to carpool, vanpool, and transit incentives. Although not all state agencies actively participate in these programs, they are required to provide employees access to these incentives.

The employer partner employee travel survey findings suggest that the type of commute assistance services offered by an employer partner has a significant impact on their employees' use of

alternative modes. The drive alone rate for employees located at worksites where the employer offers enhanced commute assistance services (70% drive alone rate) is lower than employees located at worksites where the employer offers information and support commute assistance services only (80% drive alone rate). Employees at worksites where employers offer enhanced commute assistance services are also more likely to make commute changes to alternative modes than employees at worksites where employers offer information and support services only.

PARTICIPATION SUMMARY

Framework partners report increased contact with the region's TDM resources and service outlets available to assist commuter, employers, and property managers with commuting. Calls to 1-877-CLEANAIR and 1-87-RIDEFIND and visitors to (www.cleanaircampaign.com) are on the rise. The number of commuters entering the regional rideshare database increased 26% from FY2001 to FY2002. Nearly 100 employers or property managers and more than 3,500 commuters were participating in Framework partner and employer commute incentive programs at the close of FY2002. Framework partners sold approximately 238,300 monthly discount transit passes during FY2002, an increase of about 31% over the fiscal year. The region added another 16 vans to its fleet, an increase of 9% from FY2001. Framework partners, through financial incentives and local outreach, formed at least three of the new vans and assisted in filling empty seats on several existing vans.

Surveys of metro Atlanta residents and business leaders also support increased contact with several regional programs and services. For metro Atlanta residents, contact and actual use of services is most notable for services related to transit use and services provided by information specialists at the region-wide information phone lines and at www.cleanaircampaign.com. More business leaders are participating in the MARTA Partnership Program and 1-87-RIDEFIND, and business leader contact with organizations such as The Clean Air Campaign and local area TMAs is also on the rise.

More business leaders are also offering commute assistance to employees; the most commonly offered programs include flexible schedules, compressed workweeks, and teleworking. However, few business leaders realize these programs qualify as commute assistance. Interestingly, business leaders who participate in regional programs, such as the MARTA Partnership Program and 1-87-RIDEFIND, and who have been in contact with their local TMA offer more commute assistance to employees than business leaders who do not participate or interact with these programs.

From a regional perspective, more metro Atlanta residents had access to worksite commute assistance programs in 2002 than in 2001. Availability of commute assistance programs was more common for residents working in more urbanized areas. The percentage of metro Atlanta residents noting availability of specific employer-sponsored programs did not increase substantially over the fiscal year; the only significant increase was employer-sponsored carpool subsidies. One-in-three metro Atlanta residents who said their employer offers commute assistance services used at least one service during the year. Employees working in more urbanized areas used employer commute assistance services more often than employees working in less urbanized areas.

Overall, employees collaborating with employers who partner with Framework partners to provide commute assistance services (referred to as Employer Participants) indicated greater availability and awareness of employer-sponsored commute assistance programs when compared to regional worksites. However, many employees at Employer Participant worksites are not aware of the range and extent of commute assistance services offered by their employers. Employees who said their employers offer commute assistance programs have lower drive alone rates and are more likely to try commute alternatives than employees who said they did not have access to services provided by their employer.

At the close of FY2002, Framework partners were working with approximately 670 employer clients and 107 property manager clients, an increase of about 21% from FY2001. Almost all clients offer employees information about commute alternatives and access to rideshare matching through information and support programs. Many employer clients also offer enhanced commute assistance (e.g., financial and administrative assistance). Employees working for employers who offer enhanced commute assistance have lower drive alone rates than employees working for employers who only offer information and support commute assistance services.

CHAPTER 4-D UTILIZATION

INTRODUCTION

In this chapter, the measurement team examines *utilization*, the fourth step in the performance measure continuum:

- Increase awareness
- Change attitudes
- Encourage program participation/facilitate arrangements
- ***Encourage alternative mode utilization/maximize alternative mode use***
- Generate travel and emission reductions

Utilization is defined as the number of commuters shifting to an alternative mode, on either a trial or continued basis, and whether or not their shift was the result of being placed by a specific program or service. Utilization findings are presented for each alternative mode and are based on the four data sources listed below. A detailed description of each data source is presented in Chapter 3 and a summary of the findings for each survey is presented in this chapter.

Data Sources:

- October 2002 Regional Rideshare Placement Survey
- October 2002 Employer Partner Employee Travel Survey
- November 2002 Vanpool Rider Survey
- February 2003 Discount Transit Pass User Survey

Each of these surveys obtained detailed travel information from commuters participating in specific Atlanta TDM Framework programs. The measurement team used the surveys to define program participants' current travel patterns and modes before participating in the program to identify participants who had made travel changes as a result of the program.

The steps in calculating utilization are 1) determine the commuter population base for the program or service for which the measurement team is assessing impacts; 2) calculate the alternative mode placement rate for the population base; and 3) estimate the number of commuters placed in alternative modes for each program or service. Utilization for each mode is added across all programs and services to determine the impact on alternative mode use.

SUMMARY OF UTILIZATION BY ALTERNATIVE MODE

This section summarizes the data collection activities used to determine Atlanta TDM Framework utilization by the following alternative modes: carpool, vanpool, transit, telework, and compressed work weeks. Utilization is divided into new alternative mode users and retained alternative mode users. New users are defined as commuters who began using alternative modes or increased their frequency of alternative mode use during FY2002. Retained users are defined as commuters who began using alternative modes prior to the FY2002 and maintained use of that alternative mode during the evaluation year.

Carpool

The regional rideshare placement survey and the employer partner employee travel survey findings provide an estimate of carpool utilization. These data sources reflect a conservative estimate of carpool activity in the region and might underreport the Atlanta TDM Framework role in carpool formation. The regional rideshare placement survey only includes commuters who have registered with the regional rideshare program.

Many Framework partners support employer partner carpooling programs outside the formal regional rideshare program. The employee partner employee travel survey, conducted in part to begin tracking informal carpooling, will ultimately provide data to capture carpooling activity occurring outside the rideshare database at Framework partner employer partner worksites. Currently, the survey accounts for about 67,700 of the employees working at employer partners of five Framework partner worksites, about 10% of the employee population of employer partners working with the Atlanta TDM Framework to implement commute assistance programs.

According to the rideshare placement survey, about 3,150 (11.2% new carpool placement rate) of the 28,123 rideshare database registrants are new carpoolers, while about 2,109 (7.5% retained carpool placement rate) are retained carpoolers. The measurement team added an additional 1,572 new carpoolers and 3,749 retained carpoolers based on the employer partner employee travel survey[9].

Vanpool

The vanpool rider survey and the regional rideshare placement survey findings provide an estimate of vanpool utilization. The vanpool rider survey findings identified 505 new vanpool riders and another 1,359 retained vanpool riders. The regional rideshare placement survey identified 956 (3.4% new vanpool placement) new vanpoolers and 394 retained vanpoolers (1.4% retained vanpool placement). To avoid double counting the impacts from the vanpool rider survey, the proportion of vanpoolers who participated in the vanpool rider survey who were also registered in the regional rideshare database were removed from the regional rideshare database vanpool rider totals. An additional 313 new vanpool riders and 129 retained vanpool riders were added to the vanpool utilization estimate as a result of the regional rideshare placement survey.

Transit

The discount transit pass user survey findings provide an estimate of transit utilization. The estimate tracks only discount transit pass activity in the region and not overall transit usage. The survey findings identified 4,633 new transit riders (15.6% new transit placement rate) and 25,065 retained transit riders (84.4% retained transit placement rate).

[9] The actual number of carpool placements identified in the employer partner employee travel survey was 2,566 new carpoolers (3.8% new carpool placement rate) and 5,553 retained carpoolers (8.2% retained carpool placement rate). About 994 new carpoolers and 1,804 retained carpoolers were removed to avoid double counting impacts with the regional rideshare database. The measurement team avoided double counting impacts by removing carpoolers who said they had used carpool and vanpool information or ridematching services offered by their employer. Carpoolers whose primary commute change or retained mode was bike or walk to work, telework, or work a compressed work week were also removed and included in the bike/walk, telework, and compressed work week placements count instead.

Bike/Walk

The employer partner employee travel survey findings provide an estimate of bike and walk utilization. Similar to carpooling, the estimate is conservative in that it represents only a small portion of the employer partners working with the Atlanta TDM Framework. The survey findings identified 241 new bike/walk commuters (0.4% new bike/walk placement rate) and 566 retained bike/walk commuters (1.0% retained bike/walk placement rate).

Teleworking and Compressed Work Week Schedules

The employer partner employee travel survey findings provide an estimate of teleworking and compressed work week (CWW) utilization. Similar to carpooling and bike/walk, the estimates are conservative in that they represent only a small portion of the employer partners working with the Atlanta TDM Framework. The survey findings identified 767 commuters who began teleworking and 360 commuters who began working a CWW schedule in FY2002 (new telework placement rate of 1.2% and new CWW placement rate of 0.6%). Another 4,750 commuters began teleworking prior to FY2002 and maintained use of teleworking during FY2002, while another 4,175 commuters began working a CWW schedule prior to FY2002 and maintained a CWW schedule during FY2002 (retained telework placement rate of 7.3% and retained CWW placement rate of 6.5%).

Summary

Table 16 presents the aggregate of the new and retained commuter placements identified above. The FY2002 data sources identified 53,442 commuters using commute alternatives. Approximately 11,540 (22%) began using an alternative mode during the FY2002 evaluation period, while the remaining 41,902 (78%) started using an alternative mode prior to FY2002 and maintained use of the alternative mode during FY2002.

TABLE 16: FY2002 COMMUTER PLACEMENTS/USERS NET BY MODE AND PROGRAM/SERVICE

Commuter Placements/Users	Net Total by Program/Service		
	New Users	Retained Users	Total Users
Carpool	4,721	5,858	10,580
Vanpool	818	1,488	2,306
Transit	4,633	25,065	29,698
Bike/Walk	241	566	807
Telework	767	4,750	4,534
Compressed Work Week	360	4,175	4,534
Total	11,540	41,902	53,442

SUMMARY OF FINDINGS FROM UTILIZATION DATA SOURCES

The following section is a summary of the findings from the data collection activities used to estimate the Atlanta TDM Framework utilization data presented above. The findings presented include commute mode split by weekly trips, commute changes and placement rates, use of information provided by the commute assistance program or service, and likely modes if the commute program or service were not available.

October 2002 Regional Rideshare Placement Survey

The regional rideshare placement survey involved interviews with 1,000 registrants who entered the database or received assistance from Commute Connections during the FY2002 evaluation period. An additional 375 registrants who entered the database prior to FY2002 and did not receive assistance from Commute Connections during FY2002 participated in a companion survey. The survey findings of the 1,000 registrants provided registrant placement in alternative modes, while the findings from the companion survey provided data on rideshare longevity.

Commute Mode Split by Weekly Trips – Table 17 shows the percentage of weekly trips made by the 1,000 randomly selected registrants who entered the database or received assistance from Commute Connections during the FY2002 evaluation period. The table also shows the percentage of weekly "trips" not taken because the commuters telecommuted or had a compressed work schedule day off.

TABLE 17: RIDESHARE PLACEMENT SURVEY COMMUTE MODE SPLIT BY WEEKLY TRIPS

Commute Mode	Mode as Percent of Weekly Trips
Drive alone	75.3%
Carpool	11.2%
Vanpool	3.4%
Bus	2.8%
Train	4.1%
Bike/Walk	0.9%
Telework	1.0%
Compressed Work Week	1.3%

Source: October 2002 Regional Rideshare Placement Survey

Commute Changes and Placement Rates - Of the 1,000 surveyed, 225 made a commute change during the FY2002 evaluation period. Another 173 recent applicant respondents were using an alternative mode at the time of the survey but started using the mode before the FY2002 evaluation period. Table 18 summarizes the individual placement rates for these commuter changes.

TABLE 18: PLACEMENT SURVEY ALTERNATIVE MODE PLACEMENT RATES

Commute Change	Carpool Placements		Vanpool Placements		Transit/Non-Motorized Placements	
	Freq.	Placement Rate	Freq.	Placement Rate	Freq.	Placement Rate
New Placements	112	11.2%	34	3.4%	79	7.9%
Retained Placements	75	7.5%	14	1.4%	84	8.4%

Source: October 2002 Regional Rideshare Placement Survey
Freq. = Frequency (number of respondents)

The number of active database registrants, when multiplied by new and retained placements rates identified above, provides an estimate of the total database registrants placed in alternative modes. At the close of FY2002, there were 28,123 active database registrants in the rideshare database. Extrapolating the survey results to the entire database population yields an estimate of 11,193 commuter placements during the FY2002 evaluation period. The placements by mode are summarized below:

Placement Type	Placement Rate x Registrants	Placements
New carpool placements	(0.112 x 28,123)	3,150
New vanpool placements	(0.034 x 28,123)	956
New transit/non-motorized placements	(0.079 x 28,123)	2,222
Retained carpool placements	(0.075 x 28,123)	2,109
Retained vanpool placements	(0.014 x 28,123)	394
Retained transit/non-motorized placements	(0.084 x 28,123)	2,363

Use of Ridematch Information – Only about half of the rideshare applicants (58%) requesting matchlists said they actually received one. Another 14% received a letter, but not match names.

Only about one-fourth of the applicants (28%) who received a matchlist tried to contact someone named on the list. Nearly half of the respondents (44%) who did not contact someone named on their matchlist cited incompatible work schedules or home/work addresses as the reason why they did not call anyone on the list. About 12% decided they did not want to carpool, while 11% already rideshare or found a rideshare arrangement with someone not listed on the matchlist.

The majority of respondents (84%) who tried to contact a potential rideshare partner reached people named on the list. Within this group of respondents, 44% found people interested in forming a carpool. Taking all of these actions into consideration, about 10% of people receiving a matchlist sought and found a commuter interested in ridesharing (6% of total database respondents). About 4% of total database respondents actually started ridesharing with someone named on the list.

Influence of Information and Assistance on Commute Changes – About half (53%) of the regional rideshare placement survey respondents who made a commute change during FY2002 said they were influenced by "any information, service, or benefit provided by 1-87-RIDEFIND, by their employer, or by another organization that helps with ridesharing."

Employer Partner Employee Travel Survey

Approximately 11,500 commuters working for employers who partner with Atlanta TDM Framework organizations to implement worksite commute assistance programs participated in the employer partner employee travel survey.

Commute Mode Split by Weekly Trips – Table 19 shows the percentage of weekly commute trips made by mode for the 11,492 employees, with telework and compressed work schedules included as modes.

TABLE 19: EMPLOYER PARTNER EMPLOYEE SURVEY COMMUTE MODE SPLIT BY WEEKLY TRIPS

Commute Mode	Mode as Percent of Weekly Trips
Drive alone	74.8%
Carpool	9.6%
Vanpool	1.9%
Bus	2.5%
Train	7.6%
Bike/Walk	1.3%
Telework	1.7%
Compressed work schedule	0.8%

Source: October 2002 Employer Partner Employee Travel Survey

Commute Changes and Placement Rates - Of the 11,492 commuters participating in the employee travel survey, 1,059 made a commute change to an alternative mode or increased the number of days per week they use an alternative mode during the FY2002 evaluation period (new placements). Another 3,143 commuters were using an alternative mode at the time of the survey but started using the mode before the FY2002 evaluation period (retained placements). Table 20 presents alternative mode placements and corresponding placements rates for all respondents who made a change by their primary commute change.

TABLE 20: EMPLOYER PARTNER EMPLOYEE TRAVEL SURVEY RESPONDENT ALTERNATIVE MODE PLACEMENTS

Placements	Carpool[1]		Vanpool		Transit[2]		Bike/ Walk		Telework		Compressed Work Week	
New	435	3.8%	88	0.8%	305	2.7%	46	0.4%	127	1.2%	58	0.6%
Retained	942	8.2%	164	1.4%	812	7.1%	116	1.0%	563	7.3%	545	6.5%

Source: October 2002 Employer Partner Employee Travel Survey

[1]Approximately 90 of the new carpool placements and 183 of the retained carpool placements use carpool or vanpool information services or rideshare matching offered by their employer.

[2]Approximately 149 new transit placements and 426 retained transit placements use discounted or free transit passes offered by their employer.

An additional 558 commuters made changes to alternative modes, but these changes could not be verified because of inconsistencies in how the respondent recorded current and previous travel behavior.

The Framework partner employer partner employee population base represented in this survey, when multiplied by new and retained placements rates identified above, provides an estimate of the total employees placed in alternative modes. For FY2002, the employee population base represents 67,717 employees[10]. Extrapolating the survey results to the entire employee population yields an estimate of 27,197 commuter placements during the FY2002 evaluation period. The placements by mode are summarized below:

Placement Type	**Placement Rate x Registrants**	**Placements**
New carpool placements	(0.038 x 67,717)	2,566
New vanpool placements	(0.008 x 67,717)	521
New transit placements	(0.027 x 67,717)	1,795
New bike/walk placements	(0.004 x 67,717)	271
New telework placements	(0.012 x 67,717)	767
New compressed work week placements	(0.006 x 67,717)	360
Retained carpool placements	(0.082 x 67,717)	5,553
Retained vanpool placements	(0.014 x 67,717)	968
Retained transit placements	(0.071 x 67,717)	4,788
Retained bike/walk placements	(0.010 x 67,717)	684
Retained telework placements	(0.073 x 67,717)	4,750
Retained compressed work week placements	(0.065 x 67,717)	4,175

Influence of Commute Changes – The survey asked respondents who made a commute change in the past year about what influenced them to make the change. Changes in home or job locations (26%), saving money (25%), and concern about the environment (23%) are the top three influences, followed by saving time (20%), and traffic (20%). Because respondents were allowed to check multiple changes and multiple reasons for why they made a commute change, a specific influence could not be linked to a specific change.

[10] Conducted as a pilot in FY2002, the employee partner employee travel survey attempted to survey a representative sample of employers from five of the ten Framework partners providing organized employer outreach in designated service areas (44,872 employees). Approximately 26% of the employees asked to participate in the survey returned a completed survey (11,492 employees). Twenty-six percent represents the overall employee survey response rate. This response rate was multiplied by the entire employee population for the employers eligible to participate in the survey (264,521 employees). This population represents the employee population for employer partners of the five Framework partners who participated in the survey. The total employee population represented by these Framework partners, when multiplied by the 26% response rate, yields a population base of 67,717 employees.

Vanpool Rider Survey

Vanpool drivers and riders from the three primary Atlanta vanpool vendors—Douglas County Rideshare, Georgia Building Authority, and MetroVanPool—participated in the self-administered vanpool rider survey. A total of 190 vanpools—representing 1,864 vanpool riders—received the survey in mid November 2002. A total of 818 vanpool riders returned a completed survey, for a response rate of about 44%.

Commute Mode Split by Weekly Trips – Table 21 summarizes the current mode split as the percentage of weekly trips made for all, with telework and compressed schedules included as "modes."

TABLE 21: VANPOOL RIDER SURVEY COMMUTE MODE SPLIT BY WEEKLY TRIPS

Commute Mode	Mode as Percentage of Weekly Trips
Drive alone	9.4%
Carpool	2.6%
Vanpool	85.3%
Bus	0.4%
Train	0.0%
Bike/Walk	0.0%
Telework	1.7%
Compressed Work Week	0.6%

Source: November 2002 Vanpool Rider Survey

Commute Changes and Placement Rates – Of the 1,864 vanpool drivers or riders identified by Douglas County Rideshare, Georgia Building Authority, and MetroVanPool, about 505 vanpoolers joined a vanpool during the FY2002 evaluation period (new placement rate of 27%). Another 1,359 started riding in a vanpool prior to when the FY2002 evaluation period began, representing a retained placement rate of 73%.

Influence of Financial Assistance - The overwhelming majority of vanpool riders receiving financial assistance (84% or 567 respondents) did not vanpool prior to receiving the financial assistance. The overall majority (71.6%) of vanpool riders receiving assistance rate the receipt of financial assistance as "very important" in their decision to start or continue vanpooling.

Commute Mode if Vanpooling not an Option - More than half (57%) of the vanpool riders stated they would drive alone if vanpooling were not available as an option, while 19% said they would carpool.

Discount Transit Pass User Survey

An estimated 29,698 transit riders received discount transit passes during FY2002. A stratified sample of discount monthly transit pass recipients participated in the self-administered survey distributed with transit passes for the month of February 2003. The sample included 15,842 transit pass recipients from 93 employers. Some employers chose not to participate in the survey and not all surveys were distributed. The final sample included a survey distribution of 13,881 surveys through 87 employers. A total 3,440 transit pass recipients returned completed surveys, a response rate of about 24%.

Commute Mode Split by Weekly Trips – Table 22 summarizes the current mode split as the percentage of weekly trips made for all modes, with telework and compressed schedules included as "modes."

TABLE 22: COMMUTE MODE SPLIT BY WEEKLY TRIPS

Commute Mode	Mode as Percent of Weekly Trips
Drive alone	10.2%
Carpool	3.0%
Vanpool	0.4%
Train/Bus	84.0%
Bike/Walk	0.9%
Telework	1.1%
Compressed Work Week	0.3%

Source: February 2003 Discount Transit Pass User Survey

Commute Changes and Placement Rates – Of the approximate 30,000 transit riders who received a discount transit pass, more than 4,600 began using transit or increased the number of days per week they use transit during the FY2002 evaluation period (new placement rate of 16%). Another 25,065 used transit prior to when the FY2002 evaluation period began (retained placement rate of 84%. About nine in ten (88%) of these riders (22,006) indicated the availability of the discount pass influenced their decision to continue using transit.

Influence of Financial Assistance - More than seven in ten respondents (73%) report receiving a discounted transit pass, while 23% of respondents report receiving a free transit pass, and one percent of respondents receive either a free or discounted pass. The majority (63%) of respondents receiving a free or discounted transit pass rate the receipt of this incentive as "very important" in their decision to use transit.

Commute Mode if the Bus or Train were not an Option - Approximately 71% of the discount transit pass recipients stated they would drive alone to work if the bus or train were not an option, while 14% said they would carpool or vanpool.

CHAPTER 4-E TRAVEL AND EMISSION REDUCTIONS

INTRODUCTION

In this chapter, the measurement team examines *travel and emission reductions*, the fifth step in the performance measure continuum:

- Increase awareness
- Change attitudes
- Encourage program participation/facilitate arrangements
- Encourage alternative mode utilization/maximize alternative mode use
- *Generate travel and emission reductions*

Travel and emission reductions take utilization impacts one step further by estimating the vehicle trips, vehicle miles traveled (VMT), and emissions reduced by the commuters placed in alternative modes–the ultimate goal in the performance measure continuum. Travel and emission reductions are necessary to quantify travel and air quality benefits.

The basic steps in calculating travel and emission reductions include: 1) estimate vehicle trip reduction (VTR) factor (average number of trips reduced per day for each placement); 2) multiply the number of commuter placements by the VTR factor; 3) multiply the number of one-way vehicle trips reduced by the average one-way commuter distance for the population of interest; 4) adjust vehicle trips and vehicle miles traveled for single occupancy vehicle access; and 5) multiply VMT by emission reduction factors. Impacts for each mode are added across all programs and services to determine aggregate travel and emission reductions.

TRAVEL AND EMISSION REDUCTIONS

The FY2002 travel and emission reductions for the Atlanta TDM Framework are presented on the following pages and are based on the data sources and resultant utilization impacts described in Chapter 4-D.

Vehicle Trips Reduced by Mode

As shown in Table 23, alternative mode users, when multiplied by respective vehicle trip reduction (VTR) factors, equal a total vehicle trips reduced of 37,507 trips a day. Alternative mode users who made a commute change during FY2002 reduce approximately 9,561 vehicle trips a day, while alternative mode users who maintained a commute change made prior to FY2002 reduce 27,946 vehicle trips a day.

TABLE 23: NET VEHICLE TRIPS REDUCED BY MODE (VEHICLE TRIPS/DAY)

Alternative Modes	Net Vehicle Trip Reductions		
	New Users	Retained Users	Total Users
Carpool	2,178	3,337	5,515
Vanpool	864	1,799	2,663
Transit	5,696	20,508	26,204
Bike/Walk	221	624	844
Telework	458	938	1,395
Compressed Work Week	144	741	885
Total	9,561	27,946	37,507

VMT Reduced by Mode

Table 24 shows the vehicle mile reductions for the alternative mode users. Multiplying the number of vehicle trips reduced for each mode by the average commute distance for the modes results in a total daily vehicle miles traveled (VMT) reduction of 779,924 miles. Commuters making commute changes during FY2002 represent a daily VMT reduction of 208,787 miles. Commuters, maintaining commute changes made before FY2002 represent a daily VMT reduction of 571,137 miles.

TABLE 24: NET VMT REDUCED BY MODE (VMT/DAY)

Alternative Modes	Net VMT Reductions		
	New Users	Retained Users	Total Users
Carpool	49,279	77,756	127,034
Vanpool	28,954	62,387	91,341
Transit	113,227	387,356	500,582
Bike/Walk	3,078	7,720	10,798
Telework	10,845	19,839	30,684
Compressed Work Week	3,404	16,079	19,483
Total	208,787	571,137	779,924

NO_x and VOC Reductions by Mode

Emissions benefits, defined as tons of pollutants reduced, are calculated with a simplified method using regional emission factors provided by the Air Quality Branch of Georgia Department of Natural Resources, Environmental Protection Division. Thirteen counties in the metropolitan Atlanta region do not meet federal air quality standards for ozone. Reducing emissions of oxides of Nitrogen (NO_x) and Volatile Organic Compounds (VOC) is of particular concern in the region as these pollutants are the primary components in the formation of ozone.

For 2002, the emission factors are:

NO_x = 1.150 grams per vehicle mile reduced
VOC = 1.332 grams per vehicle mile reduced

These factors, when multiplied by the vehicle miles reduced and adjusted to account for the length of the drive to access alternative modes, equals:

NO_x 0.77 tons per day reduced
VOC 0.89 tons per day reduced } 1.66 tons pollutants per day reduced

Table 25 presents daily emission reductions by mode.

TABLE 25: NO_x AND VOC REDUCTIONS BY MODE (TONS/DAY)

Alternative Modes	Net Emission Reductions (Tons/Day)	
	NO_x	VOC
Carpool	0.15	0.17
Vanpool	0.10	0.11
Transit	0.45	0.51
Bike/Walk	0.01	0.02
Telework	0.04	0.05
Compressed Work Week	0.02	0.03
Total	0.77	0.89

CHAPTER 5 MARKET ANALYSIS FOR TDM IN ATLANTA REGION

INTRODUCTION

The regional transportation surveys and business leader surveys also provide an opportunity to ask metro Atlanta commuters and employers about the type of programs and services that might lead to greater use and adoption of commute alternatives and commute assistance programs. This chapter summarizes the motivating factors and barriers that prevent commuter and business leader use and adoption of these alternatives and programs, as identified in the October 2002 Business Leader Survey and the December 2002 Regional Transportation Survey.

REGIONAL BUSINESS LEADER SURVEY

Factors Motivating Program Adoption

As shown in Table 26, when asked why they offer commute assistance programs and services, just over one-in-four (27%) employers said they offer programs as an employee benefit and to improve employee morale. Although in much smaller numbers, business leaders also cite reasons such as to help the environment (9%), ease local traffic (9%), and retain employees (5%).

TABLE 26: MOTIVATION FOR PROGRAM ADOPTION AMONG BUSINESS LEADERS

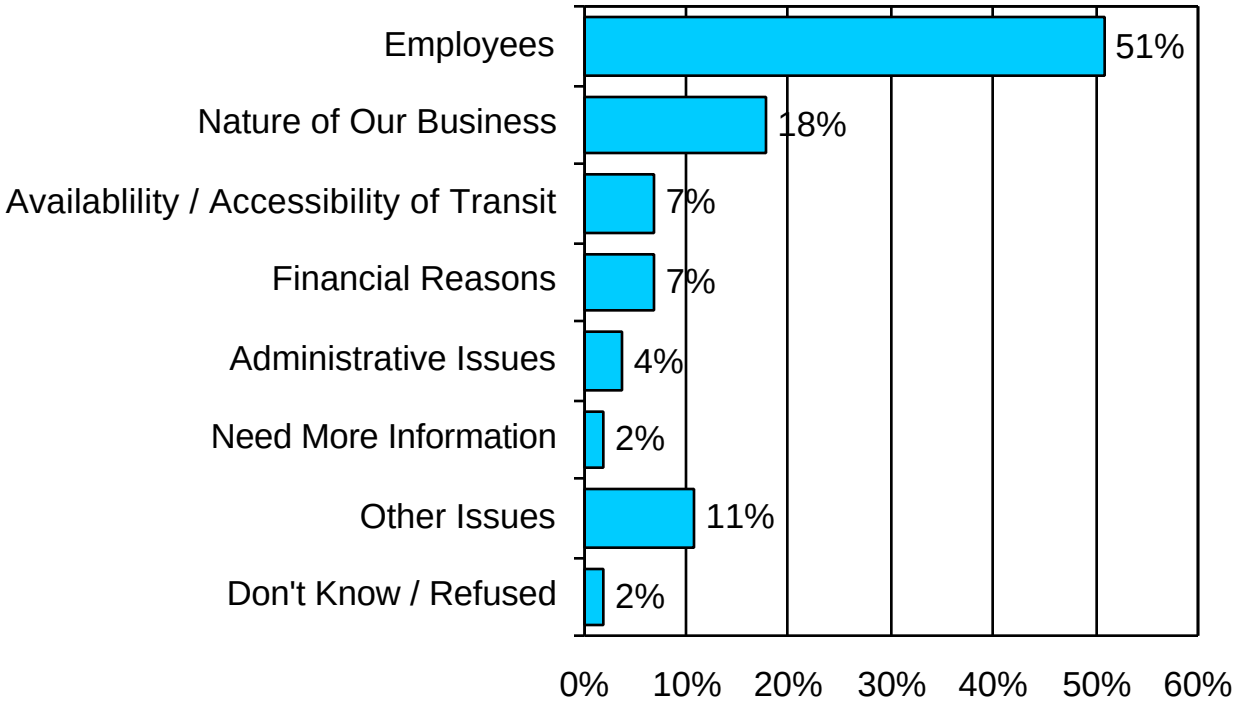
Motivating Factors	Percentage
Offer Benefit / Improve Morale	27%
Ease Traffic	9%
Help Environment	9%
Retain Employees / Reduce Turnover	5%
Reduce Absenteeism	4%
Be a Good Neighbor	4%
Increase Productivity	4%
Get Employees to Work	4%
Other Reasons	18%
Don't Know / Refused	7%

Source: October 2002 Business Leader Survey
Question: Why do you offer commuter information or assistance programs?

Barriers to Program Adoption

When asked why they do not offer commute assistance programs and services, half (51%) of all employers indicate barriers related in some way to their employees. As shown in Figure 18, employee related barriers ranged from employees being spread all over the region, employees living close to work, employees working different hours, and employees having their own transportation. Eighteen percent of the responses from business leaders stated the programs did not fit with their business. Additional barriers included availability/access to transit (7%), financial reasons (7%), and administrative issues (4%).

FIGURE 18: BARRIERS TO PROGRAM ADOPTION AMONG BUSINESS LEADERS



Source: October 2002 Business Leader Survey
QUESTION:What is the biggest barrier keeping you from implementing a commute option program?

Parking Availability Barriers

An additional barrier to the adoption of commute assistance programs among employers in the region is the large amount of parking available in the 13-county metro Atlanta region, especially the availability of free parking. Ninety-four percent of employers stated they had adequate parking for employees, and nearly three quarters (74%) of available parking is free of charge.

As expected, further analysis of the survey findings by geographic territory reveals free parking is more available in the suburbs than in Downtown, Midtown, and Buckhead. Parking is least plentiful in the region's dense corridors where better transit infrastructure exists.

Needs and Opportunities to Expand or Improve Programs

The business leader survey also polled business leaders who currently offer commute assistance programs to find out what will help them expand or improve their programs. As shown in Table 26, fewer indicated a need to expand the availability of general commute assistance services in 2002, (down from 37% in 2001 to 30% in 2002). It is likely business leaders are seeing less of a need to expand services because they are aware of the organizations and programs available to them. Reduced desire for expansion of services might also imply a lack of interest or apathy or a need for further persuasion to adopt programs.

Although fewer employers expressed a need for expanded commute assistance services, a significant demand for specific commute assistance services, programs, and other information remains. All needs cited by business leaders are presented in Table 27. The only statistically significant finding is a decrease in the number of business leaders who believe general expansion of services is needed.

Some of the most frequently mentioned needs to help employers expand programs include: brochure/information distribution (12%), assistance with flexible scheduling (4%), assistance with employee discounts (4%), assistance with telecommuting (3%), improved traffic conditions, (5%) and more public funding (2%). Employer desire for carpooling services rose to 5% in 2002 after registering less than 1% in 2001. Many of the remaining needs cited by business leaders are largely out of the direct control of commute assistance programs, particularly improved public transportation (13%).

TABLE 27: BUSINESS LEADER NEEDS FOR IMPLEMENTATION OR EXPANSION OF PROGRAMS

Needs and Opportunities	2002	2001
Services/Programs	**30%**	**37%**
Send Brochures/Information	12%	14%
Offer Carpooling Services	5%	>1%
Assist w/ Flexible Scheduling	4%	4%
Assist w/ Employee Discounts	4%	4%
Assist w/ Telecommuting	3%	2%
Expand Services (General)	2%	13%
Other	**21%**	**10%**
Improve/Expand Public Transportation	13%	NA
Improve Traffic Conditions	5%	9%
Public Funding/More Money	2%	NA
Relocate Office	1%	>1%
Better Service (General)	NA	1%

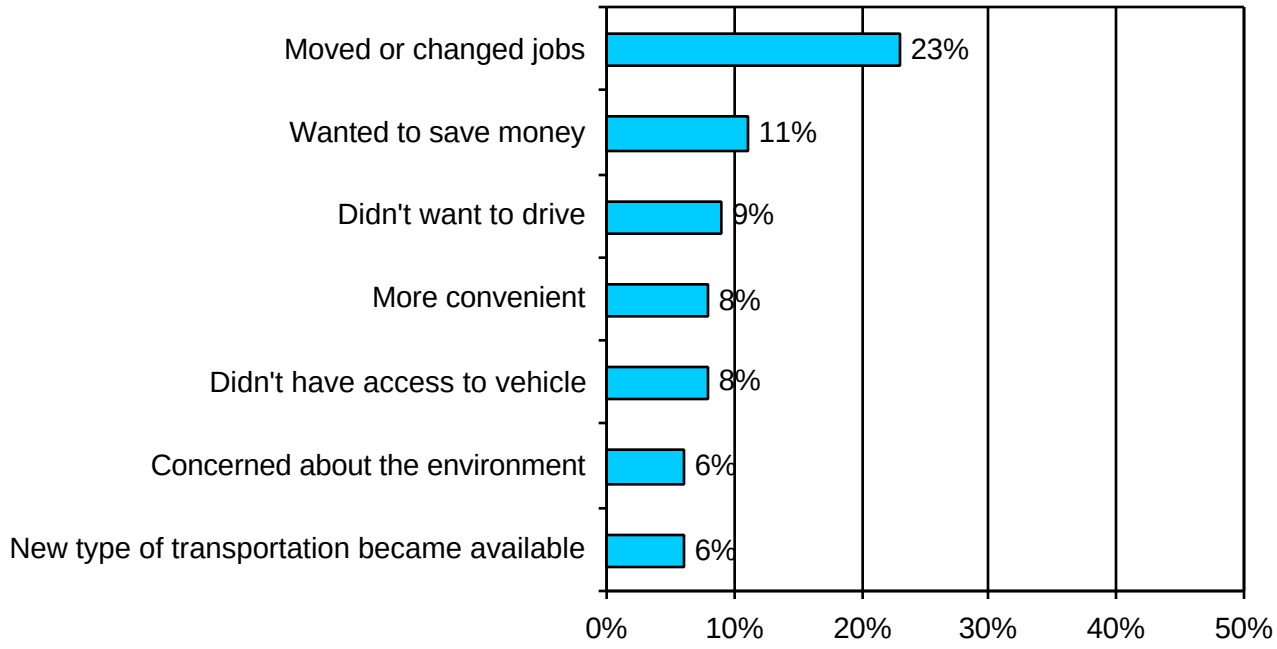
Source: October 2001 – October 2002 Business Leader Surveys
QUESTION: What is the one thing that could help your company expand on or improve upon your current commute option programs?

REGIONAL TRANSPORTATION SURVEY

Factors Influencing Alternative Mode Use

The regional transportation survey polled metro Atlanta residents who had made a commute change about what influenced them to make the change. As shown in Figure 19, a job change or move was the leading reason (23%) identified by respondents.

FIGURE 19: REASONS ATLANTA METRO ATLANTA RESIDENTS CHANGE TO ALTERNATIVE MODE USE



Source: December 2002 Regional Transportation Survey
QUESTION: What influenced your decision to make this change in how you travel to work?

Reasons for Discontinued Alternative Mode Use

Metro Atlanta residents frequently claim they switch out of various alternatives because it is easier and more convenient to drive alone. As shown in Table 28, residents also claim job changes as a reason for discontinuing their alternative mode use, particularly for discontinued use of flexible schedules (40%). Residents cite a breakup of a carpool (25%) as a reason for discontinuing carpool. Residents who previously teleworked state their work no longer allows it (27%) as reason for discontinued use.

TABLE 28: REASONS FOR DISCONTINUED USE

	Flexible Schedule	Train	Bus	Bike/ Walk	Telework	Carpool	Vanpool
Easier/more convenient to drive	--	22%	33%	35%	10%	4%	-
Change jobs	40%	8%	4%	17%	19%	5%	-
Moved Residence	6%	5%	1%	11%	-	8%	-
Car became fixed	-	20%	12%	20%	-	11%	-
Changed to different alternate mode	-	2%	9%	-	-	11%	-
Didn't work with current schedule	19%	5%	7%	-	14%	15%	-
Carpool/ Vanpool broke up	-	-	-	-	-	25%	67%
Work doesn't allow it	4%	-	-	-	27%	-	-
Prefer driving alone	-	13%	9%	4%	-	-	-
Just didn't like it	4%	8%	4%	-	-	-	-
Took too much time	5%	8%	3%	10%	-	-	-
Doesn't go where I need it to	-	7%	12%	-	-	-	-

Source: December 2002 Regional Transportation Survey
QUESTION: Can you tell me why you do not….any longer?

Factors Motivating Area Residents to Restart Alternative Mode Use

Metro Atlanta residents express common reasons for a potential return to regular use of alternative modes. As shown in Table 29, residents frequently cite better convenience and less hassle as motivating reasons to possibly return to using their prior alternative mode. Residents also cite the ease and better convenience in driving their own vehicle as main reasons for originally discontinuing their use of an alternative mode.

TABLE 29: MOTIVATING FACTORS TO START ALTERNATIVE COMMUTE MODE AGAIN

	Flexible Schedules	Train	Bus	Bike/Walk	Telework	Carpool	Vanpool
Better convenience/less hassle	18%	30%	38%	20%	-	24%	35%
Cash incentives	21%	22%	17%	6%	39%	21%	33%
Employer sponsorship	5%	5%	14%	7%	12%	15%	-
Employer subsides	6%	13%	8%	-	15%	9%	-
Better employer flexibility	28%	5%	-	-	22%	7%	-
Personal consultation	5%	4%	7%	-	-	2%	-
Access to bus/ train	-	5%	-	-	-	-	-

Source: December 2002 Regional Transportation Survey
QUESTION: Which one of the following would best motivate you to start … again?

Reasons For Low Frequency Alternative Commute Use

Table 30 presents the reasons stated by metro Atlanta residents for infrequent use of commute alternatives. Similar to discontinued users, residents cite the ease and convenience of driving their own vehicle as barriers to not using alternatives more frequently, particularly for infrequent train (46%) and bus (46%) use (see Table 29). Residents also cite problems with the mode not meeting their current schedule, stating that work does not allow a use of flexible schedules (20%) or teleworking (18%).

TABLE 30: REASONS FOR INFREQUENT ALTERNATIVE MODE USE

	Flexible Schedules	Train	Bus	Bike/Walk	Telework	Carpool	Vanpool
Easier/more convenient to drive	1%	46%	47%	22%	9%	27%	12%
Change jobs	3%	3%	1%	-	6%	-	-
Moved residence	1%	2%	1%	2%	-	3%	4%
Need car for work	-	-	-	-	-	5%	-
Car became available	-	-	4%	5%	-	4%	-
Change to different alternative mode	2%	2%	2%	1%	2%	2%	-
Didn't work with current schedule	24%	3%	4%	2%	17%	26%	34%
Work doesn't allow it	20%	-	-	-	18%	-	-
Prefer driving alone	-	2%	1%	-	-	1%	-
Just didn't like it	-	-	5%	-	>1%	2%	-
Took too much time	-	14%	8%	12%	1%	1%	-
Doesn't go where I need it to	-	13%	6%	-	-	-	-
Don't need to	8%	5%	2%	-	>1%	6%	12%
Carpool/ Vanpool broke up	-	1%	-	-	>1%	4%	18%
Cheaper to drive	-	5%	2%		>1%		
Weather conditions	-	1%	-	22%	-	-	-
Need to be at office	-	-	-	-	23%	-	-

Source: December 2002 Regional Transportation Survey
QUESTION: You indicated that you … in the past year. Can you tell me why you do not …more frequently?

Factors Motivating Increased Alternative Mode Use

Similar to factors of discontinued use or restarting use of alternative modes, residents cite the better convenience and less hassle of the alternative as motivators to start using the mode more frequently. As shown in Table 31, residents highly rate the use of incentives to draw them into more frequent use of alternatives, particularly for bike/walk (36%). A range of motivating factors would draw residents to telework, including incentives (14%), employer sponsorship (17%), and better employer flexibility (26%).

TABLE 31: MOTIVATING FACTOR TO INCREASE FREQUENCY

	Flexible Schedules	Train	Bus	Bike/Walk	Telework	Carpool	Vanpool
Better convenience/ less hassle	32%	50%	47%	33%	19%	35%	23%
Cash incentives	13%	14%	16%	36%	14%	26%	23%
Employer sponsorship	13%	3%	14%	7%	17%	5%	-
Employer subsides	8%	9%	3%	6%	4%	5%	-
Better employer flexibility	24%	2%	6%	2%	26%	6%	-
Personal consultation	-	3%	5%	3%	>1%	4%	-
Access to bus/ train	-	-	-	-	-	-	-
Nothing	7%	7%	12%	10%	17%	14%	43%

Source: December 2002 Regional Transportation Survey
QUESTION: Which one of the following would best motivate you personally to … more frequently?

User Profile

To assist in profiling users of alternative modes over time, the measurement team reviewed key characteristics of metro Atlanta residents who have tried alternatives versus those who have never tried alternatives. The measurement team produced profiles of those who have tried any of the alternative modes, those who have tried carpooling, and those who have tried teleworking.

Ever Tried Alternative Modes Profile - Generally speaking, those who have tried any alternative mode are more likely to have an employer-based commute program; are more educated; work in more urbanized regions; work in the private sector; earn higher income; and recall commuting information.

Ever Tried Carpooling Profile - When compared with those who have never tried carpooling, metro Atlanta residents who have tried carpooling share the following characteristics: more likely to have an employer who offers commute programs; less than 35 years of age; work in areas of medium urbanization region; and recall having seen carpooling information.

Ever Tried Teleworking Profile - Metro Atlanta residents who have tried teleworking are more likely to have an employer who offers commute programs; be a college graduate or post graduate; work in high-density areas; be older; work for a private organization; have a higher income; be Caucasian; and recall seeing teleworking information.

Alternative Mode Use Frequency Profile

The measurement team produced profiles for frequency of use for select alternative modes.

Carpool Frequency - Metro Atlanta resident frequency of carpooling is consistent over the life of seven surveys. One in five who carpools does so five to seven days per week; about one in ten of those who carpools does so three to four days a week and about one in ten who carpools does so one to two days per week. Carpool frequency information reveals that carpooling is a regularly used alternative with nearly one-third of users carpooling three or more days per week.

MARTA Train Frequency - Trend information over time reveals a slight decline in the percentage of commuters who regularly use the MARTA train five to seven days per week. Regular weekly users

exceed periodic monthly users implying the MARTA train is a more permanent mode use than a trial behavior.

Telework Frequency - Review of teleworking frequency reveals a long-term decline in regular five to seven day use of teleworking. However, use of teleworking for periods of one to two days per week shows a slight increase over time. The use of teleworking as a commute option is generally seen in the one-two day per week teleworking programs. The positive trend in this category is likely due to many factors, including regional commute options programs and advertising emphasis on teleworking and its increased potential and availability due to technology improvements

Compressed Work Week Frequency - By a large margin, the preferred compressed week schedule for metro Atlanta residents using this alternative is four 10-hour work days each week.

CHAPTER 6 CONCLUSIONS AND RECOMMENDATIONS

INTRODUCTION

Previous sections of this report described the results of region-wide evaluation activities conducted in FY2002. The results, combined with results from the FY2000 and FY2001 evaluations, conclude the Atlanta TDM Framework is making progress in reaching both employers and property managers and commuters, with positive impacts for congestion mitigation and air quality improvements.

This section highlights key conclusions and implications of this year's results for five categories of performance examined in the evaluation: awareness, attitudes, participation, utilization, and impacts. This section also presents recommendations for how the Atlanta TDM Framework can expand on these results in the coming year.

CONCLUSIONS

Awareness

Awareness of Problems and Solutions - Metro Atlanta residents are aware the region is experiencing problems with traffic congestion and air quality and many recall seeing, reading, or hearing information related to these issues. Residents also note moderate to strong recall on information about specific commute alternatives and commute assistance programs, although the majority of respondents cannot recall the sponsor of the information they saw, read, or heard.

Metro Atlanta residents expressed continued awareness, near 50% or more, of regional services available to help with commute alternatives. Some programs, such as public transit schedule or route information and the 1-877-CLEANAIR information line and www.cleanaircampaign.com, are recognized by more than half of the region's residents. Metro Atlanta resident awareness of the 1-87-RIDEFIND information line and carpool and vanpool matching services declined from December 2001 to December 2002, but remained high (near 45%). Residents working in more urbanized areas of the region show the greatest awareness of regional services.

Metro Atlanta residents are more aware of The Clean Air Campaign as an organization and nearly half associate The Clean Air Campaign with some form of alternative transportation activity. Many residents describe carpool encouragement and carpool matching services as primary functions of The Clean Air Campaign.

Awareness of The Clean Air Campaign remains steady among local business leaders and awareness of 1-87-RIDEFIND and the MARTA Partnership Program has grown significantly. Business leader awareness of TMAs also increased over the past year. Employers aware of regional programs and TMAs are more likely to say they offer commute assistance to employees than employees who are not aware of these programs and services.

Attitudes

Issue Importance/Severity - Atlanta residents consider traffic congestion and air quality equally as serious quality of life issues for the region. Atlanta business leaders believe traffic congestion has a greater impact on employees, and, more importantly, their business operations than air quality. When asked to rate how well the Atlanta metropolitan region has performed addressing traffic and congestion in the region, more than half of Atlanta business leaders give only a one, two, or three rating on a 10-point scale, with 10 being the highest score.

Positive Attitudes about Solutions – About half (50%) of metro Atlanta residents who said their employer offered employer-sponsored commute assistance programs gave these programs a ranking

of extremely valuable or very valuable. Residents who have tried a commute assistance program offered by their employer rank these programs higher in value than those who have not tried them.

The majority (80%) of metro Atlanta residents who have been in contact with The Clean Air Campaign gave the organization an extremely valuable or somewhat valuable ranking, representing a substantial increase from December 2001.

Likelihood of Employee Use - When asked about the likelihood of employees using specific commute assistance programs, business leaders say they believe their employees would be most receptive to compressed work week schedules, flexible start and stop times, and free rides home in case of an emergency.

Participation

Contact and Participation in Regional Programs and Services - Framework partners report increased contact between commuters, employers, and property managers and the region's TDM resources and service outlets available to assist them with commute options. Calls to 1-877-CLEANAIR and 1-87-RIDEFIND and visitors to (www.cleanaircampaign.com) are on the rise. The number of commuters entering the regional rideshare database increased 26% from FY2001 (22,300) to FY2002 (28,123). The total number of worksites enrolled in the GRH program at the close of FY2002 was 471, an increase of about 49% from FY2001 (316 worksites).

Nearly 100 employers or property managers and more than 3,500 commuters were participating in Framework partner and employer commute incentive programs at the close of FY2002. Framework partners sold approximately 238,300 monthly discount transit passes during FY2002, an increase of about 31% over the previous fiscal year. The region added another 16 vans to its fleet, an increase of 9% from FY2001. Framework partners, through financial incentives and local outreach, formed at least three of the new vanpools and assisted in filling empty seats on several existing vanpools.

Surveys of metro Atlanta residents and business leaders also support increased contact with several regional programs and services. For metro Atlanta residents, contact and actual use of services is most notable for services related to transit use and services provided by information specialists at the region-wide information phone lines and at www.cleanaircampaign.com. More business leaders are participating in the MARTA Partnership Program and contacting 1-87-RIDEFIND, and business leader contact with organizations such as The Clean Air Campaign and local area TMAs is also on the rise.

Services Provided by Employers and Property Managers - More business leaders are also offering commute assistance to employees (77% in 2002 compared to 65% in 2001); the most commonly offered programs include flexible schedules, compressed workweeks, and teleworking. However, only a small number of business leaders realize these programs qualify as commute assistance. Interestingly, business leaders who participate in regional programs, such as the MARTA Partnership Program and 1-87-RIDEFIND, and who have been in contact with their local TMA offer more commute assistance to employees than business leaders who do not participate or interact with these programs.

More metro Atlanta residents had access to worksite commute assistance programs in FY2002 (24%) than in FY2001 (20%). Availability of commute assistance programs was more common for residents working in more urbanized areas. The percentage of metro Atlanta residents noting availability of specific employer-sponsored programs did not increase substantially over the previous fiscal year; the only significant increase was employer-sponsored carpool subsidies. One-in-three metro Atlanta residents who said their employer offers commute assistance services have used at least one service. Employees working in more urbanized areas used employer commute assistance services more often than employees working in less urbanized areas.

Overall, employees working for employers who collaborate with Framework partners to provide commute assistance services (referred to as Employer Participants) indicated greater availability and awareness of employer-sponsored commute assistance programs when compared to the regional average. However, many employees at Employer Participant worksites are not aware of the range and extent of commute assistance services offered by their employers. Employees who said their employers offer commute assistance programs have lower drive alone rates and are more likely to try commute alternatives than employees who said they did not have access to these services.

At the close of FY2002, Framework partners were working with approximately 670 employer clients and 107 property manager clients, an increase of about 21% from FY2001. Almost all clients offer employees information about commute alternatives and access to rideshare matching through information and support programs. Many employer clients also offer enhanced commute assistance (e.g., financial assistance and administrative assistance). Employees working for employers who offer enhanced commute assistance have lower drive alone rates than employees working for employers who only offer information and support commute assistance services.

Utilization

The measurement team identified 53,442 commuters using commute alternatives associated with the Atlanta TDM Framework in FY2002. Approximately 11,540 (22%) began using an alternative mode during the FY2002 evaluation period, while the remaining 41,902 (78%) started using an alternative mode prior to FY2002 and maintained use of the mode during the evaluation year.

The FY2002 utilization impacts include those programs and services the measurement team could validate with established data sources. This estimate is conservative; actual utilization is higher but is difficult to measure with a high degree of confidence and accuracy.

Travel and Emission Reductions

The 53,442 commuters using commute alternatives reduced a total of 37,507 vehicle trips per day. Commuters who had made a commute change during FY2002 reduced 9,561 vehicle trips per day, while commuters who made a commute change prior to FY2002 but maintained the commute change during the year contributed to a daily vehicle trip reduction of 27,946 trips.

Multiplying the number of vehicle trips reduced by the average commute distance for the respondents (20.9 miles one-way), results in a total daily reduction of 779,924 miles.

Emissions reduced, defined as tons of pollutants reduced, are calculated by multiplying regional emission factors provided by the Air Quality Branch of the Georgia Department of Natural Resources, Georgia Environmental Protection Division by the amount of VMT reduced. Thirteen counties in the metropolitan Atlanta region do not meet federal air quality standards for ozone. Reducing emissions of oxides of Nitrogen (NO_x) and Volatile Organic Compounds (VOC) is of particular concern in the region as these pollutants are the primary components in the formation of ozone. The emissions reduced equal:

- NO_x .77 tons per day reduced
- VOC .89 tons per day reduced

} 1.66 tons pollutants per day reduced

As mentioned previously, the FY2002 evaluation is a program level estimate of travel and emission reductions for a select group of Framework programs. The evaluation follows a standardized and rigorous protocol and is considered a lower bound estimate of travel and emissions reductions attributable to TDM programs. It is cost prohibitive to assess the travel and emission reductions associated with all TDM programs. In addition, the evaluation does not capture the indirect impact

of programs—impacts that are not immediately evident or obvious to individuals making commute changes.

These emission reductions are substantially higher than the emission reductions documented in the FY2001 Atlanta TDM Framework Evaluation (.53 tpd of NO_x and .58 tpd of VOC). A direct comparison of travel and emission reductions cannot be made from FY2001 to FY2002[11]; however, the measurement team is confident that the Atlanta TDM Framework is increasing the number of commuters using commute alternatives throughout the region.

As mentioned previously, the FY2002 travel and emission reductions represent a program level estimate for a select group of Framework programs. The regional estimate presented in the SIP VMEP Update found that over the past five years nearly 270,000 commuters were placed in alternative commute modes. The total daily travel reduction from these commuters equals 207,400 vehicle trips and 4.1 million vehicle miles. The reduction in vehicle miles traveled translates into a reduction of 4.97 tpd of NO_x and 5.75 tpd of VOC per day. It is likely the travel and emissions reductions for TDM programs fall between the program and regional estimates.

RECOMMENDATIONS

The ultimate goal of the Atlanta TDM Framework is to encourage commuters who are driving alone to shift to alternative transportation modes and to encourage commuters who currently use alternative modes to continue to do so. The FY2002 evaluation assesses the Atlanta TDM Framework's activities towards reaching this goal, but also to identify opportunities to enhance future success. Suggested areas of enhancement, or recommendations, are presented below. A more detailed description of the recommendations and the findings leading to the recommendation follow the summary.

1. **Educate the Audience** – Many employees at Framework partner employer partner worksites are not aware of the programs that their employers offer and regional employers do not understand the range of programs that could be classified as commute assistance;
2. **Continue to Increase Financial Incentives to Encourage Alternative Mode Use and Adoption of Commute Assistance Programs** - Incentives play a key role in a commuter's decision to start or to continue using alternative modes and employees working for employers that offer financial incentives to encourage alternative mode use have the lowest drive alone rates of any group evaluated in FY2002;
3. **Target Urbanized Areas** - A host of conditions related to urbanization play a role in commuter, employer, and property manager awareness, interaction, and use of commute assistance programs and availability of commute assistance programs;
4. **Focus Outreach on Employers and Property Managers** - Employer interaction with regional programs and services and outreach service providers appears to increase the range and extent of commute assistance programs available to employees;
5. **Strengthen Coordination of Atlanta TDM Framework Activities** – The Atlanta TDM Framework will be most effective if commute assistance services are provided and promoted in a more coordinated and integrated community wide approach.

These recommendations are designed to prompt commuters to move from awareness of commute assistance programs to action. These actions might include using a specific commute assistance program or service or trying or adopting a new commute alternative. Recruiting new employer clients and enhancing commute assistance programs at existing employer client worksites are important components of moving commuters beyond awareness to action.

[11] In FY2002, the measurement team expanded the evaluation to include several new data sources.

The Atlanta TDM Framework should continue to shift resources towards expansion of the regional supporting programs and services and outreach services. Expansion of regional programs and services should include increased funding for incentive programs targeted at individual commuters, employers, and property managers along with improved utilization of existing programs, such as the regional rideshare program. Increased investment in outreach services should include additional funding to employer outreach service areas that have greater concentrations of commuters and infrastructure to support alternative mode use.

Because resources are limited, a balance must be struck between generating new employer or property manager clients and building or enhancing relationships with current employer and property manager clients. Critical to this balance is identifying employers and property managers with characteristics that favorably support the implementation and adoption of commute assistance programs. The evaluation results suggest that this target market should include employers and property managers in more urbanized areas, that is, areas with greater congestion and employment density, limited parking, and infrastructure to support alternative mode use.

1) EDUCATE THE AUDIENCE

Whether through the employer or the individual commuter, a key component of outreach is making sure the audience understands the range of programs available. The FY2002 data collection findings show employees at Framework partner employer partner worksites are not aware of the range and extent of commute assistance services offered by their employers. In addition, regional business leaders do not understand the range of programs that could be classified as commute assistance.

Close the Gap Between Employee Awareness and Employer Program Offerings

Overall, employees at Framework partner worksites indicate greater availability or awareness of employer-sponsored commute assistance programs than regional worksites, as measured through the regional transportation survey. However, many of the employees at Framework partner worksites are not aware of the range and extent of commute assistance services offered by their employer, and therefore, actual use of services remains low. The Atlanta TDM Framework should use these findings to communicate to employers a need to offer employees more information about the commute assistance services available to them.

Educate Employers on Programs that Could be Classified as Commute Assistance

Many employers do not know the programs they currently offer also serve commute assistance functions. Thus, many employers are unaware of the positive results their programs are having on traffic and the environment. The Atlanta TDM Framework must continue to educate employers on the multiple benefits that result from sponsorship of these programs and continue to market these benefits when approaching new employer clients.

Increase the Regional Rideshare Database Placement Rate

The rideshare database placement rate is negatively impacted by the small percentage of people contacting someone on their match list to find a rideshare partner. Only about 4% of the total respondents said they started ridesharing with someone on their ridematch list. Only 28% of the people who received a match list tried to contact someone on their list to find a rideshare partner. Nearly half of the respondents (44%) who did not try to contact someone named on their match list cited incompatible work schedules or home/work addresses as the reason why they did not contact someone on their list.

These recommendations focus on actions Framework partners, especially those who provide employer and individual outreach services, can take to encourage applicants to contact people on their match list and thereby improve the rideshare database placement rate.

- Directly contact applicants a few weeks after they receive a match list to help motivate commuters to use the ridematch information and to provide commuters an opportunity to request additional assistance;
- Implement a series of brief monthly or bimonthly commute-oriented messages to keep interest high among current applicants;
- Use financial incentives to encourage applicants to call people on their match list and form ridesharing arrangements.

Some Framework partners began implementing follow-up with new rideshare applicants in late FY2002 in an effort to enhance the rideshare database placement rate. The Clean Air Campaign, in particular, began an aggressive approach to increasing the placement rate.

Commute Connections now sends duplicate match lists of all commuters in a company to the designated Clean Air Campaign placement coordinator, at the same time they are sent to commuters. The placement coordinator contacts all matched commuters to provide one-on-one assistance, including verifying and or updating contact information, and ensuring the commuter has received the match-list. The placement coordinator also maps the addresses of commuters named on the match list, identifying possible commute routes and park and ride locations to help overcome the barriers commuters may perceive when matched with commuters who, for example, live in the opposite direction from the worksite.

The Clean Air Campaign also now offers Meet Your Match events at participant worksites. Outreach coordinators work with a company coordinator to promote the activity and send personalized letters that include a recent copy of a commuter's match list and an explanation of the incentives being offered if they begin ridesharing. At the event, commuters are encouraged to stop by in information table with someone on their match list and register their carpool.

2) CONTINUE TO INCREASE FINANCIAL INCENTIVES TO ENCOURAGE ALTERNATIVE MODE USE AND ADOPTION OF COMMUTE ASSISTANCE PROGRAMS

Continue to Expand the Use of Existing Incentive Programs

FY2002 data findings revealed the majority of vanpool riders and discount transit pass recipients did not vanpool or use transit prior to receiving financial assistance and would drive alone if these commuting options were not available. The switch back to drive alone would have a substantial impact on travel and air quality emission reductions for the region.

Over the past year, the Atlanta TDM Framework has increased the range and extent of commute incentive programs offered to commuters and employers. Examples include two new Clean Air Campaign incentive programs: Cash for Commuters and the Employer Clean Air Challenge. CAP/Downtown TMA, MTS, and BATMA, in coordination with The Clean Air Campaign, also implemented a joint carpool subsidy program during smog season FY2003. The Atlanta TDM Framework should continue to implement similar incentive programs in the future and should increase the level of funding available to commuters and employers through incentive programs.

An important component of a financial incentive program is evaluating the impact it has on short- and long- term travel behavior changes. A survey conducted of a group of participants in The Clean Air Campaigns' Cash for Commuters regional commute assistance program confirmed that financial assistance motivates people to make sustained commute changes. The survey of registrants,

conducted three to six months after they completed the program, found that the majority of program participants (70%) are continuing to use the commute alternatives they used during their enrollment period.

The Atlanta TDM Framework should continue to conduct similar surveys to further the region's understanding of the role incentives play in prompting commuters to make and sustain behavior changes. These findings would provide valuable insight for TDM decision-makers for purposes of resource allocations and program design.

Encourage Employers and Property Managers to Implement More Enhanced Commute Assistance Programs

The Atlanta TDM Framework should continue to focus on encouraging employers and property managers to implement enhanced commute assistance programs, including the increased use of incentives to promote alternative mode use. Overall, the employee drive alone rate for employers that offer enhanced commute assistance to their employees is lower than the drive alone rate for employers offering information and support assistance only. The lower drive alone rates translate into higher alternative mode use, including carpooling and transit use. Consequently, employers providing enhanced commute assistance have greater levels of travel and emissions reductions than employer worksites providing only information and support assistance.

3) TARGET URBANIZED AREAS

A host of conditions related to urbanization, such as employment density, infrastructure availability, parking availability, and traffic congestion play a role in commuter, employer, and property manager awareness, interaction, and use of commute assistance programs and availability of commute assistance programs.

Currently, TMAs provide employer and individual outreach to eight of the region's densely populated employment centers. The Clean Air Campaign Private Sector Outreach Program provides outreach throughout the 13-county region in areas outside the eight defined TMA territories. At the beginning of FY2003, CAC Private restructured its outreach approach to commit more resources to many of the region's most highly congested corridors and densely populated employer areas.

Metro Atlanta Residents and Business Leaders are More Receptive in More Urbanized Areas

FY2002 data collection findings show Atlanta residents working in more urbanized areas are more aware of commute assistance programs and services and more receptive to using these programs and services. This also appears to be true for business leaders, as business leaders with worksites in more urbanized areas offer a greater number of commute assistance programs and have a higher likelihood to offer additional programs than their counterparts in less urbanized areas.

Investigate Adopting a More Regional Approach to Assessing Outreach Needs

While program enhancement is important throughout the metro Atlanta region, travel and air quality emission reductions may be achieved more efficiently when Framework partners focus in areas that have greater concentrations of commuters and greater infrastructure to support alternative mode use. These factors appear to offer substantial opportunities for behavior change.

As such, the Atlanta TDM Framework should investigate the benefits that could be derived from adopting a more regional approach to assessing employer and individual outreach needs. The approach would include basing the allocation of outreach services (outreach staff) on employment density and other conditions related to urbanization. For example, assigning outreach staff to

territories that are divided not by area size but by employment, so that denser areas have more staff to provide employer and individual outreach.

4) Focus Outreach on Employers and Property Managers

Employer Sponsored Commute Assistance Programs Are Important

Business leaders who participate in regional programs, such as the MARTA Partnership Program, 1-87-RIDEFIND, and The Clean Air Campaign, and who have been in contact with their local TMA offer more commute assistance to employees than business leaders who do not participate or interact with these programs. This connection suggests significant potential for growth and enhancement of employer-sponsored programs through employer and property manager outreach.

Residents who said their employer offered commute assistance programs were more likely to try them and individuals who try these programs place a greater value on them than those who do not. Metro Atlanta residents who said their employer offered commute assistance programs are also more likely to try commuting alternatives and typically have lower drive alone rates.

Promote the Positive Impacts to the Businesses' Bottom Line

A key component of focusing outreach on employers and property managers is using marketing and advertising dollars to promote the positive impacts commute assistance programs have on businesses' bottom line. Business leaders are aware of the impacts of traffic congestion on business operations. Two of the primary reasons they offer commute assistance programs—to increase employee benefits and improve employee morale—influence daily business operations and translate into greater productivity and higher employee retention. Marketing and outreach messages should highlight these positive impacts and explain how they translate into savings for a businesses' bottom line. The Clean Air Campaign began moving in this direction during FY2002 by using advertising messages with testimonials from prominent Atlanta business leaders such as Arthur Blank and Ted Turner.

Individual Commuter Outreach Is Also Important

Not all employers are receptive to commute assistance programs. As identified in the regional travel survey, individual commuters interacting with regional services are more likely to use them, make commute changes to alternative modes, and have lower drive alone rates. As such, interaction with individual commuters through a regional program or service, where the individual contacts the program directly rather than through an employer-sponsored program, is also important. Regional programs and services also provide an opportunity to educate individuals who do not work or are self-employed on ways to reduce their non-commute related travel.

5) Strengthen Coordination of Atlanta TDM Framework Activities

Business leaders and residents in the metro Atlanta region show high awareness of regional programs and services available to help with commuting alternatives and to help implement commute assistance programs. However, there is considerable confusion among business leaders over which commute assistance programs qualify as commute assistance and among commuters at Framework partner Employer Participant worksites over which commute assistance programs are available to them.

The high awareness of programs and services and the confusion about the employer-sponsored commute assistance programs available among employees at employer partner worksites suggests the need for a more coordinated and integrated approach to TDM in the region. An integrated and coordinated approach will build on the strength of all Framework partner commute assistance programs, create economies of scale, and reduce the confusion among commuters and business leaders

about these programs. This approach should be seamless and take advantage of local commute options and infrastructure and employer or employee demand for services.

The approach should include the coordination of advertising and public relation activities with all Framework partners. These messages should continue to direct commuters to appropriate programs and services to obtain information and provide them with the appropriate resources and tools to act.

In May of FY2003, CAP/Downtown TMA, MTS, and BATMA launched a shared carpool incentive program in coordination with The Clean Air Campaign. This coordinated incentive program is an excellent example of a coordinated and integrated approach to raising awareness of carpooling as a commute alternative and the incentives available to encourage use.

APPENDIX A, B, AND C

These appendices are included in the
FY2002 Atlanta TDM Framework Final Report Appendix Notebook